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Abstract

We use internationally comparable household-level data for ten euro area economies and the United States to investigate cross-country differences in debt holdings and the potential of debt overhang. U.S. households have the highest prevalence of both collateralized and non-collateralized debt, hold comparatively large amounts of loans outstanding, and face a higher debt-service burden. These differences are mainly attributed to the U.S. economic environment, which appears to be more conducive to both types of debt. For instance, differences in the economic environment between the United States and the median European country explain more than 85% of the overall difference in the prevalence of debt holdings. Even though U.S. households have higher income and financial wealth than their European counterparts, their debt burden remains comparatively elevated, primarily because a given level of collateral translates into a higher prevalence of collateralized debt, and larger amounts of it, in the United States. This suggests that U.S. households are relatively more vulnerable to adverse shocks.

JEL classification: D12, E21, G11
Bank classification: Credit and credit aggregates; Econometric and statistical methods; International topics

Résumé

À partir de microdonnées sur les ménages exploitables à des fins de comparaison internationale, les auteurs étudient les différences dans le niveau d'endettement et la nature des dettes des ménages de dix pays de la zone euro et des États-Unis, et la possibilité que ces ménages se retrouvent en situation de surendettement. Les ménages américains sont proportionnellement les plus nombreux à contracter des emprunts garantis et non garantis; ils supportent aussi d'importants encours de dette comparativement aux ménages européens, et leur situation financière est davantage grevée par le service de la dette. Ces disparités sont essentiellement attribuables au contexte économique américain qui apparaît plus propice à la souscription des deux types d'emprunt. Par exemple, les différences de contexte économique sont à l'origine de plus de 85 % de l'écart entre les États-Unis et le pays européen médian dans les proportions de ménages endettées. Même si les ménages américains ont un niveau plus élevé de revenu et de patrimoine financier que les ménages européens, le service de la dette pèse plus lourdement sur leur situation financière du fait essentiellement qu'un montant de garantie donné se traduit aux États-Unis par une plus forte proportion de ménages souscripteurs d'emprunts garantis et des encours plus importants. Ces résultats donnent à penser que les ménages américains sont relativement plus vulnérables aux chocs négatifs.

Classification JEL : D12, E21, G11
Classification de la Banque : Crédit et agrégats du crédit; Méthodes économétriques et statistiques; Questions internationales

Non-Technical Summary

Household debt has attracted a lot of attention in the academic as well as the policy debate since the onset of the financial crisis. The buildup of household debt has often been seen as one of the major imbalances that eventually triggered the crisis, while the follow-up deleveraging has shaped the economic performance of several advanced economies. When comparing household debt across countries, considerable heterogeneity is apparent. However, such a comparison needs to take into account that household characteristics as well as the economic environment differ across countries. For that purpose, we provide an in-depth decomposition of the two effects for households in the United States and ten euro area countries based on recent decomposition techniques that allow us to investigate not only the overall magnitude of the two effects but the contribution of various determinants to each of them.

Using novel household-level data for Europe from the Household Finance and Consumption Survey, and supplementing them with comparable data from the U.S. Survey of Consumer Finances, we shed light on a number of issues that cannot be analyzed with aggregate data. First, we show that U.S. households tend to have a substantially higher prevalence of debt, and also hold relatively large amounts of it. This difference is largely due to an economic environment in the United States that is more conducive to debt holdings – had European households encountered the U.S. economic environment, many more would be expected to hold debt, and considerably larger amounts of it. For instance, differences in the economic environment between the United States and the median European country alone explain 90% of the overall difference in the prevalence of collateralized debt, and almost 88% for non-collateralized debt. A notable exception to this is the Netherlands, which is also characterized by an economic environment that is rather conducive to debt holdings.

Importantly, we find a substantial role for households' assets in explaining differences in debt holdings – if European households, given the value of their assets, were to face U.S. conditions, they would hold more debt. With regard to collateralized debt, this is particularly the case for real assets, suggesting that U.S. households access larger amounts of mortgage debt at much lower levels of collateral. Since high mortgage debt typically imposes significant debt-service requirements, U.S. households have a considerably higher debt-service burden than their European counterparts, which in turn makes them more vulnerable to idiosyncratic and aggregate shocks.

1. Introduction

In several advanced economies, household debt rose substantially in the years leading up to the global financial crisis.[1] At the same time, due to concurrent booms in house prices and stock markets, debt-to-asset ratios remained comparatively low in many countries. Hence, debt seemed to be sustainable. When share and house prices fell sharply during the recent financial crisis, however, the ensuing drop in household wealth often led to unsustainable increases in the debt-to-asset ratios. Furthermore, many households were faced with a drop in income or income prospects, making it harder for them to service their debt. As a consequence, there has been a substantial deleveraging in the household sector over recent years.

This deleveraging process has shaped the post-crisis macroeconomic performance in several economies. Mian and Sufi (2011) stress the negative feedback effect of foreclosures and forced house sales on house prices, which in turn lower collateral values and lead to negative wealth effects. But even in the absence of foreclosures, households with high debt burdens have likely cut down their consumption in order to keep up with their debt-service payments. Taken together, these developments have had substantial macroeconomic repercussions. For instance, using regional variation across the United States, Mian and Sufi (2010) show that U.S. household leverage in 2006 predicts most of the fall in durable consumption in the subsequent recession.

We use internationally comparable household-level data from the United States and ten euro area countries to examine cross-country differences in household debt holdings and to assess the concomitant household exposure to a high debt-servicing burden. Given the importance of household debt for the macro economy and for financial stability, a first insight of our analysis is that household debt holdings, both at the extensive and the intensive margin, differ substantially across countries, and that there is significant heterogeneity in the burden that these debts impose. Micro-level data help to shed light on these issues that are typically hidden in National Accounts and regional aggregates, because household-level information allows us to distinguish between debt prevalence and amounts as well as to assess individual debt burden on the basis of payments that each household makes to service different types of debt.

Exploring and making sense of this observed heterogeneity is not straightforward, however. For instance, households are heterogeneous in terms of socio-economic characteristics, and the economic environment they face differs depending on the country they live in. Differences in economic environments usually comprise a broad set of factors that can originate from market characteristics (such as the availability of certain debt products), legal conditions (such as different taxation of debt), cultural factors (such as differences in the social acceptance of

[1] The increased access to credit has been linked to an increased share of borrowers with relatively 'poor' characteristics. For example, Mian and Sufi (2009) show that a shift in credit supply was a key factor in the expansion of subprime mortgages in the United States; Demyanyk and Van Hemert (2012) document that the quality of such loans deteriorated for six consecutive years prior to the crisis.

indebtedness), or policy (such as macro-prudential or monetary policies). Therefore, cross-country differences in debt holdings can be – on the one hand – due to differences in the configuration of household characteristics and – on the other hand – due to differences in the economic environment within which the households operate. We use regression decomposition techniques in order to assess the contribution of these two factors to observed differences in prevalence and outstanding amounts of collateralized and non-collateralized debt and in the resulting debt burden.

The data used in this paper come from the newly available Eurosystem Household Finance and Consumption Survey (HFCS), and are combined with comparable data from the U.S. Survey of Consumer Finances (SCF). We provide a number of new findings, which can be summarized as follows.

First, we document that U.S. households show the highest prevalence of both collateralized and non-collateralized debt, and those who hold debt have comparatively large amounts of loans outstanding; conditional median amounts outstanding are higher only in the Netherlands (for both types of debt) and in Luxembourg (for collateralized debts).

Second, these differences arise mainly because the U.S. economic environment is more conducive to debt holdings.[2] For instance, differences in the economic environment between the United States and the median European country alone explain 90% of the overall difference in the prevalence of collateralized debt, and almost 88% for non-collateralized debt. In particular, the U.S. economic environment seems to generate higher holdings of collateralized debt than those observed for the same level of collateral in Europe. Moreover, for a given level of education, households in the United States appear to hold more non-collateralized debt than their European counterparts. The Netherlands is the only European economy with, at least in part, similar outcomes.

Third, while differences in household characteristics do not play the main role in explaining observed differences in debt holdings, they are estimated to have a non-trivial effect in many pairwise comparisons. In most of these cases, we find that U.S. households have characteristics that make them more likely to hold debt than their European counterparts.

Fourth, U.S. households have more financial wealth and income than most of their European counterparts, and possessing such relatively liquid resources helps reduce the likelihood of an overly large debt burden. Nevertheless, U.S. households are found to have a substantially higher debt burden. This is linked to the economic environment in the United States, which appears more tolerant to high debt burdens for a given level of collateral compared to the euro area.

[2] For example, had European households faced the U.S. economic environment, the fraction of households with collateralized debt would be expected to increase by 30 to 40 percentage points in Italy and Spain, and by the same amount for non-collateralized debt in Austria, Belgium, Italy, Portugal and Spain.

The paper relates to two strands of existing literature. The first deals with factors determining household debt. Especially since the global financial crisis, there has been renewed interest in this question (Zinman, 2015, provides a thorough review). Several authors have stressed the importance of loan supply in determining debt levels: Mian and Sufi (2009) argue that more widespread securitization practices among banks shifted the supply of mortgages; Corbae and Quintin (2013) point to the large number of low-down-payment mortgage contracts in the United States prior to the crisis; Damar et al. (2014) show how a reduction in lending supply during the crisis has reduced household borrowing in Canada, which in turn has affected consumption.

Other studies emphasize the role of loan demand in shaping debt levels. Georgarakos et al. (2014) show that those who consider themselves poorer than their peers tend to borrow more and assume a higher debt-service burden, in particular during periods of economic expansion. Finally, house prices have also been shown to be instrumental in explaining household debt: with rising house prices, debt levels tend to increase (see, e.g., Mian and Sufi, 2009).

A second strand of the literature to which this paper relates uses decomposition techniques to study differences in household finances across countries. Bover (2010) estimates wealth distributions in a comparative analysis of the United States and Spain, and finds that differences in household structure account for most of the differences in the lower part of the wealth distribution, whereas its upper part would be even more heterogeneous in the absence of differences in household structure. Christelis et al. (2013) use data on elderly households from the United States and twelve European countries to study differences in stocks, houses, businesses and mortgages. They find that the economic environment is the main driver of differences in participation and values. Sierminska and Doorley (2012) find an important role for household characteristics in determining differences in ownership rates of several assets and liabilities and in amounts held, comparing the United States with Germany, Italy, Luxembourg and Spain. Finally, Mathä et al. (2014) disentangle wealth differences across euro area countries by looking into the importance of intergenerational transfers, home ownership and house price dynamics.

The current paper adds to this literature by expanding the number of the country comparisons and, importantly, by exploring differences in households' debt burden. Another innovation of this paper is that we apply recent decomposition techniques by Firpo et al. (2009) that provide more detailed decompositions than the earlier literature.

The paper proceeds as follows: Section 2 presents the data, and Section 3 the decomposition method. Sections 4 and 5 discuss the findings with regard to the prevalence and amounts of debt holdings, respectively. Section 6 studies differences in debt burden, and Section 7 concludes.

2. Data

2.1 Household debt

We use internationally comparable household survey data from two sources. The first source is the Eurosystem HFCS, a novel household wealth survey that provides ex ante comparable data for fifteen euro area countries.[3] For the purposes of our analysis, we use data for Austria, Belgium, France, Germany, Greece, Italy, Luxembourg, the Netherlands, Portugal and Spain, i.e. ten euro area countries which account for 95% of euro area GDP, and 94% of the euro area population.[4] The reference year for the first wave of this survey is 2008 in Spain, 2009 in Greece and the Netherlands, and 2010 in all other countries. The second data source is the 2010 wave of the U.S. SCF. We match data from the two surveys based on a common set of information that regards household debt, assets and various demographic characteristics. In total, we compare more than 44,000 European households with nearly 6,500 households in the United States.

As is evident from Figure 1, which plots overall amounts of household debt as taken from National Accounts data, household deleveraging has occurred to a different extent across countries, and at different times. The fact that the reference years for Spain, Greece and the Netherlands are earlier than those for the other European countries does not seem to pose a major problem, since in all cases, no household deleveraging has occurred prior to the HFCS fieldwork. In contrast, in 2010 the U.S. deleveraging had already started. It is therefore important to keep in mind that our comparisons relate to a pre-deleveraging Europe and a post-deleveraging United States. Given that we find, in general, higher debt prevalence as well as larger outstanding volumes in the United States, these differences would likely be even starker if the SCF had recorded debt holdings in 2009 or 2008.

Figure 1 here

In the analysis, we consider two types of debt: collateralized debt (mortgages, home equity loans and debt for other real estate) and non-collateralized debt (credit card debt, instalment loans, overdrafts and other loans).

Table 1 here

[3] For more details on the survey, see http://www.ecb.europa.eu/home/html/researcher_hfcn.en.html as well as Household Finance and Consumption Network (2013a, b). An important feature of both surveys is that missing observations (i.e., questions that were not answered by the respondent households) are multiply imputed – as a matter of fact, five data sets are provided, an issue that we will take into account when assessing the statistical significance of our estimates.

[4] Data for Cyprus, Finland, Malta, Slovakia and Slovenia will not be used: these either do not cover some relevant information, or have only small samples.

Table 1 shows how prevalence and conditional amounts (which are transformed into 2005 U.S. dollars based on purchasing-power-parity [PPP] estimates) differ across countries. We sort countries by geographic latitude, to allow for an easier comparison of the northern and the southern euro area countries. The fraction of households having collateralized and non-collateralized debt varies considerably across countries. As mentioned previously, prevalence in the United States is substantially larger than in all other countries, with a particularly large gap for the case of non-collateralized debt, where more than 60% of U.S. households participate, in contrast to around 20%-40% for European households. The transatlantic difference in holdings of collateralized debt is less stark, but it is apparent that there are enormous cross-country differences within Europe: whereas less than 20% of Austrian, Greek and Italian households report having collateralized debt, this number stands around 40% in the Netherlands and Luxembourg.[5]

Table 1 also shows outstanding amounts at the 10th, 50th, and 90th percentile of the conditional distribution by country and type of debt. In particular, the median U.S. and German household with collateralized debt has an outstanding amount of around $100,000 and $90,000, respectively. In contrast, median collateralized debt holdings are higher in the Netherlands and Luxembourg, varying between $130,000 and $150,000. Looking at non-collateralized debt, the overall amounts are (as expected) much smaller than for collateralized debt. Median non-collateralized debt in the United States is lower than in the Netherlands and in the same order of magnitude, namely around $10,000, as in Luxembourg and Spain. Cross-country heterogeneity is also present if one looks at the tails of the conditional debt distributions.

Finally, Table 1 shows statistics on the debt-service-to-income ratio (DSIR) that is a commonly used debt burden indicator. DSIR is calculated as the fraction of monthly disposable income that every household has to pay in order to service any collateralized and non-collateralized debt. Reported statistics are calculated over the entire household population, i.e. also including those that do not hold any debt.[6] Financial practitioners typically use a DSIR of 33% as a cut-off point, above which a household is classified as a "risky" borrower and considered as likely to face significant difficulties in servicing debt (see, e.g., DeVaney and Lytton, 1995). The fraction of households with a DSIR greater than 33% is 15% in the United States, followed by 13% in Spain and 8% in the Netherlands. On the other hand, less than 3% of households in Austria, Germany and Italy have such a high debt-service burden.

The 90th percentile distinguishes the top 10% of households with the highest DSIR in each country from the remaining 90% with a relatively lower debt burden. DSIRs at the 90th percentile vary quite a lot across countries, and notably suggest that in more than half of the

[5] The large heterogeneity among European countries is also discussed in Bover et al. (2014). Their analysis identifies the duration of asset repossession periods as an important factor for explaining differences in the distribution of collateralized debt.
[6] We have excluded few observations with a DSIR greater than 200%.

countries the 10% households with the highest DSIR have to spend at least one-fourth of their income in servicing their collateralized and non-collateralized debt.

2.2 Household characteristics

In what follows, we discuss a basic set of household socio-economic characteristics that we control for in the decomposition analysis. In particular, we take into account characteristics that are expected to associate with indebtedness, as suggested by both theory and established empirical practice. It is important to note that we have harmonized the definitions of all variables across the European and U.S. surveys, and thus our results are fully comparable across all pairwise comparisons.

First, we take into account a number of demographics, including the age group of the household head (less than 39; 40-49; 50-59; while those aged 60 and above are our base category), household size, and marital status (married; never married; widowed; with the divorced forming the base category). Furthermore, we control for the level of education (finished high school; having at least some post-secondary education; with not having finished high school being the base category). These factors should influence the willingness to borrow and the ease of getting credit by signalling the household's earning capacities. In addition, we control for work status (being employed; retired; inactive; while being unemployed is the base category), since it also indicates the ability to repay debt.

Moreover, we include information on households' income, financial wealth and real wealth, because these represent resources with a varying degree of liquidity and indicate both the need for holding debt and the capacity to shoulder its burden. For instance, we would expect those who own an expensive house or other real estate to be more likely to finance it through a mortgage, and those with large financial assets to be less likely to have a large mortgage or consumer debt. To make income and wealth comparable across countries in absolute terms, we define dummy variables that sort households into the quartiles of the corresponding distribution in the United States. Hence, each euro area household is placed into a quartile depending on how its income or wealth compares to the U.S. quartile threshold values.[7] We also control for whether a household has received a sizable inheritance or gift, which has been found to be important for explaining household wealth (see, e.g., Mathä et al., 2014; Fessler and Schürz, 2015).

In the case of non-collateralized debt we control for a number of additional characteristics that could influence demand for credit in the short run: having had an unexpectedly low income during the previous year (which could induce some short-term borrowing); expecting next year's income to be higher (which could make households more comfortable with borrowing now);

[7] All income and wealth items are adjusted for differences in the purchasing power of money, and their values are all expressed in 2005 U.S. dollars.

being willing to undertake some financial risk (which could influence the propensity to get into debt).

The distribution of the various characteristics by country can be seen in Appendix Table A.1. With respect to education, U.S. households are on average more educated than their European counterparts. They are also the most likely to be working. Notably, U.S. households have in general higher relatively liquid economic resources. In particular, they have more households in the top income quartile than any other European country, except for Luxembourg. With respect to financial assets, they have the second-highest prevalence – after the Netherlands – in the top quartile, while Greece, Italy, Portugal and Spain have the lowest. In contrast, when it comes to real assets, many European countries have more households in the top category than the United States, mainly due to discrepancies in home ownership.

3. Decomposition Methodology

To investigate more thoroughly the observed differences in both the prevalence and outstanding amounts of the two types of debt across countries, we use decomposition methods that estimate counterfactual distributions. Decomposition techniques have been used extensively in labour economics to examine cross-sectional differences in incomes across demographic groups (e.g., men versus women; minorities versus the rest). Oaxaca (1973) and Blinder (1973) were the first to implement these techniques in order to study the sources of gender gap in average wages.[8] Since their seminal work, the development of new counterfactual techniques has allowed researchers to examine differences not only in means, but also in percentiles of distribution and measures of inequality.[9]

These newer techniques have been used to address distributional questions such as whether the gender pay gap increases at higher income percentiles (Albrecht et al., 2003). They have also been used to compare changes in U.S. income distribution across different points in time (e.g., Autor et al., 2008). Moreover, they have been used to compare differences in income distributions across regions (Nguyen et al., 2007) as well as across countries (e.g., Blau and Kahn, 1996). Following the recent availability of micro surveys with information on household balance sheets, decomposition methods have also been implemented to perform comparisons in household finances across time or countries (see, e.g., Gale and Pence, 2006; Christelis et al., 2013; Bover, 2010; Sierminska and Doorley, 2012; Mathä et al., 2014).

[8] They use ordinary least-squares estimates from a regression of (log) wages on various covariates to construct the counterfactual average wage that women would earn if they had the same characteristics as men. Using this, one can decompose the average wage gap into an 'explained' part that is due to gender differences in characteristics (e.g., education and experience) and an 'unexplained' part that is due to differences in wage schemes that men and women of similar characteristics face, often thought to reflect wage discrimination.

[9] See, for example, Juhn et al. (1993); DiNardo et al. (1996); Machado and Mata (2005).

In this paper, we use decomposition methods to study differences in debt holdings across countries. When comparing outstanding amounts we employ new decomposition techniques that draw on recentered influence function (RIF) regressions (Firpo et al., 2009). The latter are implemented as linear regressions of the RIF of the quantile of interest on an array of covariates. RIF regressions allow evaluating the impact of explanatory variables on the quantiles of the unconditional (marginal) distribution of the dependent variable[10] and can be used to extend the popular Oaxaca-Blinder decomposition method to any quantile (or to any other distributional measure of interest; see Firpo et al., 2007). We bootstrap (using 100 replications) the entire estimation procedure (including the derivation of the weights used in the decomposition and the components of the decomposition) in order to derive estimated standard errors. As we discuss below, we present results from both an aggregate and a detailed decomposition.

One advantage of using RIF regressions in aggregate decompositions is that identification rests on the ignorability assumption, which is relatively milder than the conditional independence assumption that a standard Oaxaca-Blinder framework requires. That is, the error term is allowed to correlate with covariates in the model as long as this correlation is similar in the two groups being compared. In any case, as is typical in empirical studies that apply decomposition methods, the regression estimates used as input to the decomposition should be viewed as capturing associations, rather than as identifying causal effects. Another advantage of RIF-based decompositions over other methods that allow quantile decompositions (e.g., the kernel reweighting approach of DiNardo et al., 1996, or the quantile regression-based method of Machado and Mata, 2005) is that it is resilient to the order that covariates enter in a detailed decomposition.

More specifically, we perform country-pairwise decompositions in debt holdings of the following form:

$$Y^{US} - Y^{EA} = \{X^{US}\beta^{US} - X^{EA}\beta^{US}\} + \{X^{EA}\beta^{US} - X^{EA}\beta^{EA}\}, \qquad (1)$$

where differences in the left-hand side denote either differences in prevalence of each of the two types of debt between the United States and the comparison euro area country; differences in (log) outstanding amounts, evaluated at different percentiles of the respective distributions; or differences in DSIRs. X's consist of the rich set of household-specific characteristics discussed in Section 2.2. Estimated coefficients derive either from a linear probability model in the case of participation in debt markets or the prevalence of high DSIRs, or alternatively from RIF regressions evaluated at different percentiles of the outstanding debt amounts or DSIRs.

Equation (1) decomposes the observed differences in debt prevalence, debt amounts or DSIRs between the United States and each euro area country into: (i) a part that is due to differences in

[10] RIF regressions are also termed *unconditional* quantile regressions to highlight the contrast to the widely used quantile regressions that estimate changes in the quantiles of the conditional distribution of the dependent variable.

the configuration of households' socio-economic characteristics ($X^{US}\beta^{US} - X^{EA}\beta^{US}$; often termed 'covariate' or 'composition' effects); and (ii) a part that is due to differences in the way these characteristics translate into households' debt holdings in the respective countries ($X^{EA}\beta^{US} - X^{EA}\beta^{EA}$; often termed 'coefficient' or 'unexplained' effects). As previously discussed, in our context, this latter part can be thought of as reflecting (any) differences in economic, legal, cultural or market environments that households (of similar characteristics) in different countries face.

We also present results from a detailed decomposition that allows splitting the covariate and coefficient effects into components that can be attributed to a given group of covariates. This is likely to provide additional insights into the relative contribution of certain household characteristics (e.g., education, income, real and financial wealth) to the differences in debt holdings across countries.

4. Decomposing the Participation in Debt Markets

The first step in the analysis is to discuss results from aggregate and detailed decompositions of the prevalence of collateralized and non-collateralized debt. As mentioned previously, estimated coefficients used in the decomposition derive from linear probability models, where the dependent variable takes the value of one if a household has the relevant type of debt.[11]

Recall that we are modelling the difference in debt prevalence as Y^{US}-Y^{EA}, and thus a positive coefficient effect (which is given by $X^{EA}\beta^{US} - X^{EA}\beta^{EA}$) implies that the economic environment in the United States is more conducive to taking out debt than the environment in the respective European country. By contrast, a positive covariate effect (given by $X^{US}\beta^{US} - X^{EA}\beta^{US}$) implies that U.S. households as compared to European ones have a configuration of characteristics that is more conducive to holding debt.

4.1 Collateralized debt

Panel A of Table 2 contains the results of the Oaxaca-Blinder decompositions for collateralized debt. The numbers in bold provide the estimates for the total magnitude of the coefficient effects and of the covariate effects. The first remarkable observation is that the coefficient effects typically dominate the covariate effects, and that they are all positive, statistically significant (with the exception of the comparison with the Netherlands) and also generally economically

[11] Estimation results of these linear probability models are shown in Appendix Tables A2 and A3. Most of the factors have similar qualitative effects across countries, but there are often sizable differences in the estimated magnitudes. Real wealth and income associate positively with the probability of holding collateralized debt, while financial wealth and inheritance received display a negative association. With regard to non-collateralized debt, income displays a positive association, and financial wealth a negative one.

large. In other words, the environment in the United States seems much more conducive to having collateralized debt. To summarize, a comparison of the United States with the median European country suggests that coefficient effects alone account for around 90% of the total difference in debt holdings, leaving only 10% to be explained by covariate effects.

Table 2 here

The table also contains results from a detailed decomposition, which allows us to probe further into the contribution of certain variables (or groups thereof). This analysis reveals that real wealth plays a key role in generating the positive coefficient effects.[12] This implies that, for any given level of household real assets, the probability of holding a collateralized loan is larger in the United States. The reason behind this finding could be that real assets are deemed to be safer collateral in the United States than in Europe, or to denote higher future ability to repay the debt.

Besides real wealth, income is also an important determinant of the coefficient effect – once more, for a given level of income, U.S. households are considerably more likely to hold collateralized debt than households in a number of euro area countries, most notably Austria, France, Luxembourg and Greece. On the other hand, we find a negative coefficient effect for financial wealth in France and the Netherlands. Finally, education does not play a significant role for the coefficient effects.

Looking at the covariate effects, there are a number of countries for which these are estimated to be negative, namely Greece, Italy, Luxembourg and Spain. This implies that if households in the United States had the characteristics of the households in these countries, they would be more likely to hold collateralized loans.

Looking into the detailed decomposition, it is apparent that the negative overall effect for these countries largely stems from real wealth. The mechanism behind these results works as follows: in some countries, real wealth is higher than in the United States. Also, real wealth is positively associated with having collateralized debt. Accordingly, if U.S. households had the higher real wealth of their European counterparts, their prevalence of collateralized debt would be higher. In a similar vein, countries with relatively more households in the upper half of the income distribution (Luxembourg and the Netherlands) show a negative covariate effect with regard to income, while the opposite is true for countries with relatively lower household incomes.

There are also negative covariate effects due to financial wealth, but in this case the underlying mechanism is different. Financial wealth is found to negatively associate with the likelihood of

[12] Other characteristics that have been taken into account in the estimation, such as marital and occupational status, and inheritance received, play in general a small or statistically insignificant role and are not shown in the table.

holding collateralized debt in the United States, probably because having large financial assets makes taking a mortgage less necessary. Given that households in the United States have higher financial wealth than those in a number of comparator countries, the probability of having collateralized debt in the United States would have been lower if households therein had the financial wealth of their European counterparts.

4.2 Non-collateralized debt

Results for non-collateralized debt are reported in Panel B of Table 2. We know from Table 1 that U.S. households are much more likely to have this kind of debt, and find in the first row of Panel B that these differences are also statistically significant. As was the case with collateralized debt, the decomposition analysis suggests that these differences are overwhelmingly driven by coefficient effects. Again, the results imply that the economic environment in the United States is considerably more conducive to taking out loans than in any euro area economy under study. In particular, the coefficient effects account for between 81% and 96% of the observed differences (88% for the median European country under comparison), while the remaining gap is explained by the covariate effects. The latter are uniformly positive, suggesting that household characteristics in the United States are more conducive to taking out non-collateralized debt.

Looking at the detailed decomposition of coefficient effects, we note that financial wealth in particular, but also real wealth, make an important contribution to the observed country differences. This result implies that for any given level of financial and real wealth, the economic environment in the U.S. favours taking up non-collateralized loans more than in any European country.

Another notable finding relates to the estimated constant, which represents the propensity for the household in the base category to hold debt. We have chosen the base category such that it refers to households that are more likely to be at an economic disadvantage, namely the oldest, the divorced, the least educated, the unemployed, those who have not received an inheritance, and those in the lowest income and the real and financial wealth groups. Accordingly, the constant in our decompositions reflects to what extent the prevalence of debt among the most economically disadvantaged euro area households would differ if they were facing the environment prevailing in the United States. Our results imply that the most disadvantaged households in the United States are much more likely to have non-collateralized debt than their comparator group in Portugal, Italy, Spain, Greece and France. This finding is consistent with the notion that debt holdings are rather common among U.S. households with low resources that are more likely to face problems in servicing their debt, especially under adverse economic conditions.

As mentioned above, covariate effects play only a limited role in explaining the observed overall differences in debt prevalence. Yet, they are statistically significant in most comparisons and

uniformly suggest that U.S. households have characteristics that make them more likely to hold non-collateralized debt. One such characteristic, according to the detailed decomposition, is education. This is to be expected, given that on average U.S. households are more educated and education is positively associated with having non-collateralized debt (possibly because it signals a higher ability to pay back the loan). As for collateralized loans, higher income associates with non-collateralized debt prevalence, leading to positive covariate effects for countries where households have lower income than in the United States, and negative covariate effects in the high-income countries Luxembourg and the Netherlands.

As discussed in Section 2.2, when decomposing the prevalence of non-collateralized debt, we also take into account factors that are likely to affect the propensity to borrow in the short run, such as willingness to assume more risk, unexpectedly low income in the previous year and expectations of a higher future income. While these factors associate with debt prevalence of non-collateralized debt in many countries (according to the estimates shown in Table A3), they play only a minor role in explaining the respective cross-country differences.

We have performed a number of robustness exercises to ensure the consistency of the above-mentioned findings. First, instead of using the quartile dummies for income, financial wealth and real wealth, we have included non-linear transformations (i.e., inverse hyperbolic sine) of these variables. Second, we have replaced the quartiles of gross financial and real wealth with their net measures. Third, we have reversed the order of the decomposition to examine its sensitivity to the choice of the base country. That is, we have repeated every pairwise decomposition by treating the respective euro area country as the base country and the United States as the comparison country (i.e., using $Y^{EA} - Y^{US} = \{X^{EA}\beta^{EA} - X^{US}\beta^{EA}\} + \{X^{US}\beta^{EA} - X^{US}\beta^{US}\}$). In all these cases, results are qualitatively similar to those we discussed.

5. Decomposing Conditional Amounts of Debt

The next step in the analysis is to conduct a related exercise for the (log) outstanding amounts of debt. Here, we will look only at those households that actually report having debt on their balance sheet. We condition our specifications on the same sets of covariates used to model the prevalence of collateralized and non-collateralized debt (see Section 2.2). When looking into differences in amounts, we can control for some additional factors that are likely to contribute to the accumulation of collateralized debt. In particular, we take into account information on the original duration of the mortgage. Moreover, we know the year in which the mortgage was taken out, which allows us to control for the time elapsed since that date, and for certain macroeconomic conditions that prevailed at the time the mortgage was taken out. As regards the latter, we assess the role of house price developments by matching our data with the cumulative

growth of the national house price index (defined over the three years prior to the mortgage take-out).[13]

In this section, we use RIF-regression-based decomposition methods, which allow us to study the importance of covariate and coefficient effects at different points of the distribution of debt holdings.[14]

5.1 Collateralized debt

We first decompose differences in outstanding amounts of collateralized debt. For brevity, we report decomposition results at the 10th, 50th and 90th percentiles of the conditional distributions in Tables 3A, 3B and 3C, respectively. Once more, we find large coefficient effects which indicate that the U.S. economic environment is in general more conducive to higher amounts of collateralized debt than the environment in many euro area countries. These results appear rather robust across different percentiles of the collateralized-debt distribution.

Tables 3A, 3B and 3C here

There are a few notable exceptions to the aforementioned pattern: coefficient effects are insignificant in Luxembourg, and negative in Germany and the Netherlands, especially at the median and the bottom of the distribution.

According to the detailed decompositions, real wealth makes an important contribution to coefficient effects mostly at the bottom of the distribution, suggesting that the environment in the United States is particularly more conducive to borrowing at low levels of real wealth. In other words, if European households with relatively small debt holdings were to borrow as much as their U.S. counterparts with comparable real wealth, they would hold larger amounts of collateralized debt.

In Germany, the estimated negative coefficient effect is mainly due to the years elapsed since the mortgage was taken. This implies that German households pay off a larger fraction of their mortgage than they would have paid off in the United States in a given time period. In contrast, the estimated negative coefficient effect for the Netherlands is mostly due to the contribution of

[13] House price index data are taken from the AMECO database. Due to some missing information on the three additional factors taken into account, we lose roughly 10% of households with collateralized debt outstanding from the decomposition.

[14] RIF regression results at the median are shown in Tables A4 and A5 for collateralized and non-collateralized debt, respectively. With regard to collateralized debt, national house price growth in the years prior to mortgage take-up has a positive association with median outstanding amounts in France, Italy and Spain (and in the United States, Portugal and Greece at the 10th percentile of the conditional distribution). With regard to non-collateralized debt, education associates positively with outstanding amounts in the United States, but not in the European countries.

the constant term, suggesting that the economic environment in the Netherlands generates larger collateralized loans to the more disadvantaged group of borrowers than in the United States.

Covariate effects play a statistically significant role in most comparisons (with the exception of the Netherlands, Austria and Spain). They are quantitatively important, especially at the bottom end of the distribution. Estimated covariate effects are in general positive, implying that there are certain covariates that make U.S. households more prone to assume larger amounts of collateralized debt than what is observed for their European counterparts. This is mostly due to the years elapsed since the loan was taken (which is shorter for U.S. households given more frequent remortgaging) and the original loan duration (which is longer for U.S. households).[15] We derive negative covariate effects of house price developments prior to the mortgage take-out mainly in comparison with countries that experienced a strong housing price growth: had house price increases been as strong in the United States as in these European countries, U.S. households would have borrowed more, especially at the low end of the debt distribution.

Luxembourgish households have a configuration of characteristics that makes them more prone to larger collateralized borrowing. Recall that Luxembourg and the Netherlands are the two countries in which households have larger outstanding collateralized debt than their U.S. counterparts. In Luxembourg, household characteristics play a key role in explaining observed differences with the United States, while on the other hand, differences with the Netherlands are mainly driven by the economic environment.

5.2 Non-collateralized debt

Tables 4A, 4B and 4C show the results for the various percentiles of non-collateralized debt. Coefficient effects are in general positive, suggesting, once more, a more conducive U.S. economic environment. One notable exception is the Netherlands, where we estimate sizable negative coefficient effects at the 50th and 90th percentiles.

Tables 4A, 4B and 4C here

Results from detailed decompositions suggest an important contribution of education to the coefficient effects, mainly at the lower end of the debt distribution. That is, European households would have higher non-collateralized debt, if they had experienced the economic environment that U.S. households of comparable education face. This finding suggests that in the United

[15] Recall that estimated coefficients from RIF regressions imply a negative (positive) association between years elapsed (original loan duration) and collateralized debt.

States, more so than in Europe, education is considered to imply a higher ability to repay debt in the future.

Covariate effects, with very few exceptions, are also positive. That is, household characteristics in the United States differ in a way that makes households more prone to hold larger amounts of non-collateralized debt. Education contributes significantly to such positive covariate effects, reflecting that on average U.S. households are more educated and education is positively associated with non-collateralized debt.

The results presented in this section are qualitatively robust to a similar set of checks as applied in the previous section. Moreover, given that the estimation of conditional debt amounts is based on relatively smaller samples, we check the reweighting error that corresponds to the difference between the total covariate effect under the standard Oaxaca-Blinder decomposition and under the reweighted regression decomposition, and find that reweighted errors are in general small and insignificant.

6. Decomposing Indicators of Debt Burden

The last step in the analysis is to examine differences across countries in indicators of debt burden. The results discussed so far suggest that U.S. households are more likely to hold debt and have higher amounts outstanding than European ones, mainly due to the more conducive U.S. economic environment to debt holdings. At the same time, U.S. households tend to have higher income and financial wealth, all of which denote a higher ability to repay debt. Thus, the higher debt holdings in the United States do not necessarily translate into a larger debt burden.

We use a common indicator to measure household debt burden, namely the DSIR. The higher its DSIR, the more vulnerable is a household to idiosyncratic and aggregate economic shocks, and consequently the more exposed it could become to financial stress. We present results from decompositions over all households – i.e., also those without any debt holdings and therefore a zero debt service – in order to give a sense of the importance of high indebted households for the general population.[16]

We use two measures to denote households with a high debt-service burden. The first identifies a household as vulnerable if it has a DSIR greater than 33%, and we will use linear probability models to perform the decomposition analysis. The second approach is to conduct a

[16] For robustness, we have estimated the same models and performed the subsequent decompositions in a sample that excludes households without any debt to service. Results (available from the authors upon request) are highly comparable to those we present.

decomposition based on RIF regressions at the 90th percentiles of the DSIR distributions in each country.[17]

Table 5 here

In Table 5 we present decomposition results using the two aforementioned measures. Looking at the first rows of Panels A and B, it is apparent that, first, the fraction of U.S. households with a DSIR greater than 33% is larger than in any euro area country; second, in most cases, the DSIR at the 90th percentile is significantly higher in the United States than in the comparison countries.

For both measures, the observed differences are mostly explained by positive and significant coefficient effects, thus implying that the U.S. economic environment is more lenient toward higher DSIRs. According to the detailed decompositions, real wealth is a key contributor to this result, suggesting that the U.S. economic environment tolerates a higher debt burden for households for a given level of collateral.

While coefficient effects drive the observed differences, covariate effects are significant, too, working in general in the opposite direction. This is mostly due to the negative covariate effects estimated for income and financial wealth. This suggests that if U.S. households had the lower relatively liquid resources of their European counterparts, they would have taken on an even larger debt burden.

All in all, our findings suggest that while U.S. households have a configuration of characteristics (mainly financial wealth and income) that reduces their debt burden, they are considerably more likely to face very high levels of debt burden, thereby exposing them to possible financial stress in the case of negative shocks. This can be partly linked to the economic environment in the United States, which appears more tolerant to high DSIRs for a given level of collateral. Moreover, this result is corroborated by our earlier findings that the U.S. economic environment generally is more conducive to holding debt, and large amounts of it.

7. Conclusions

Household debt has attracted a lot of attention in the academic as well as the policy debate since the onset of the financial crisis. The buildup of household debt has often been seen as one of the

[17] Tables A.6 and A.7 show the corresponding estimates. The results suggest that in the United States and a number of euro area countries higher liquid resources (income and financial wealth) associate negatively with the DSIR. On the other hand, higher real asset holdings associate positively with the DSIR, probably due to large instalments typically required to service large collateralized loans.

major imbalances that eventually triggered the crisis, while the follow-up deleveraging has shaped the economic performance of several advanced economies. When comparing household debt across countries, considerable heterogeneity is apparent. However, such a comparison needs to take into account that household characteristics as well as the economic environment differ across countries. For that purpose, we provide an in-depth decomposition of the two effects for households in the United States and ten euro area countries.

Using novel household-level data for Europe from the HFCS and supplementing them with comparable data from the U.S. SCF, we shed light on a number of issues that cannot be analyzed with aggregate data. First, we show that U.S. households tend to have a substantially higher prevalence of debt, and also hold relatively large amounts of it. This difference is largely due to an economic environment in the United States that is more conducive to debt holdings – had European households encountered the U.S. economic environment, many more would be expected to hold debt, and considerably larger amounts of it. For instance, for the median European country under comparison, differences with the U.S. economic environment explain 90% of the overall difference in the prevalence of collateralized debt, and 88% for non-collateralized debt. A notable exception to this is the Netherlands, which is also characterized by an economic environment that is rather conducive to debt holdings.

Importantly, we find a substantial role for households' assets in explaining differences in debt holdings – if European households, given the value of their assets, were to face U.S. conditions, they would hold more debt. With regard to collateralized debt, this is particularly the case for real assets, suggesting that U.S. households access larger amounts of mortgage debt at much lower levels of collateral. Since high mortgage debt typically imposes significant debt-service requirements, U.S. households have a considerably higher debt-service burden than their European counterparts, which in turn makes them more vulnerable to idiosyncratic and aggregate shocks.

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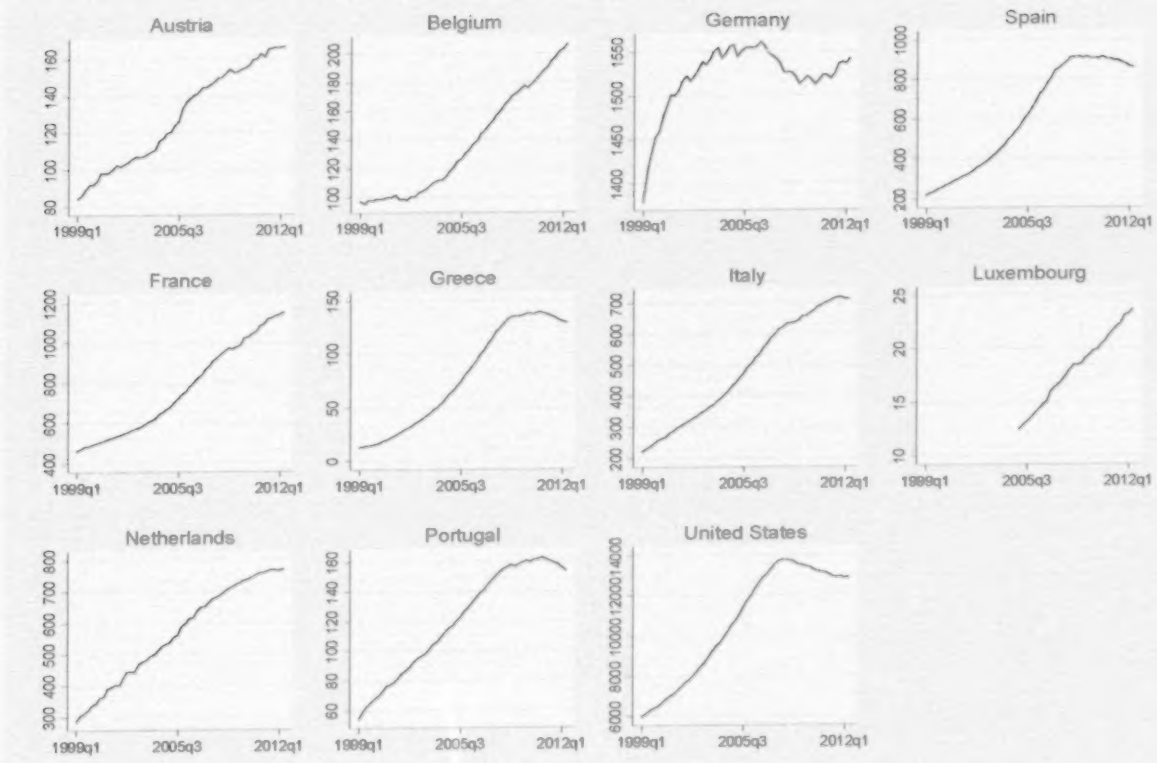
Figure 1: Household debt levels



Note: The figure plots the level of total credit to private households including non-profit institutions serving households. Data are measured in US$ billions for the United States, and in € billions for all other countries. Source: BIS.

Table 1: Summary statistics for debt holdings (prevalence and conditional amounts) and the debt-service-to-income ratio

		Collateralized Debt				Non-Collateralized Debt				Debt Service to Income Ratio			
			Percentiles among holders				*Percentiles among holders*			Prevalence			
Country	Observations	Prevalence	P10	P50	P90	Prevalence	P10	P50	P90	DSIR>33%	P10	P50	P90
US	6,482	0.48	22,211	100,487	304,864	0.63	854	11,059	48,811	0.15	0.00	0.12	0.40
DE	3,565	0.21	14,657	92,094	254,632	0.35	350	3,672	20,721	0.03	0.00	0.00	0.17
NL	1,301	0.44	40,822	149,213	317,766	0.37	499	15,545	113,204	0.08	0.00	0.04	0.29
BE	2,327	0.31	15,081	75,245	198,594	0.24	543	5,604	24,557	0.04	0.00	0.00	0.23
LU	950	0.39	25,463	130,943	402,658	0.37	1,037	10,394	41,144	0.07	0.00	0.05	0.28
FR	15,006	0.24	6,657	62,397	188,775	0.33	573	5,791	43,334	0.04	0.00	0.00	0.25
AT	2,380	0.18	5,009	42,981	213,533	0.21	351	3,460	35,200	0.02	0.00	0.00	0.09
IT	7,951	0.11	9,024	67,677	203,030	0.18	1,128	6,429	50,758	0.03	0.00	0.00	0.14
ES	6,197	0.33	16,812	81,298	237,471	0.31	936	9,866	44,037	0.12	0.00	0.00	0.37
PT	4,404	0.27	10,832	66,020	163,155	0.18	338	4,484	22,070	0.07	0.00	0.00	0.26
GR	2,971	0.18	9,901	57,929	175,414	0.26	864	6,117	28,910	0.04	0.00	0.00	0.20

Notes: The table reports summary statistics for the prevalence and conditional amounts of collateralized and non-collateralized debt holdings and the debt-service-to-income ratio in each country. P10/P50/P90 denote the 10th/50th/90th percentile. Country names are abbreviated as follows: US: USA; DE: Germany; NL: Netherlands; BE: Belgium; LU: Luxembourg; FR: France; AT: Austria; IT: Italy; ES: Spain; PT: Portugal; GR: Greece. Statistics use survey weights and are adjusted for multiple imputations. Nominal amounts are expressed in 2005 U.S. dollars.

Table 2: Decomposition results – differences in the prevalence of collateralized and non-collateralized debt relative to the United States

Panel A. collateralized Debt

	DE		NL		BE		LU		FR		AT		IT		ES		PT		GR	
Total Difference	**0.269 *** **	***0.012***	**0.042 ** **	***0.020***	**0.176 *** **	***0.016***	**0.097 *** **	***0.019***	**0.240 *** **	***0.010***	**0.300 *** **	***0.011***	**0.376 *** **	***0.008***	**0.158 *** **	***0.012***	**0.217 *** **	***0.011***	**0.308 *** **	***0.010***
Selected Covariate Effects																				
Education	0.002 *	*0.001*	0.001	*0.004*	0.000	*0.003*	0.003	*0.005*	0.003	*0.005*	0.006 *	*0.003*	0.005	*0.009*	0.003	*0.008*	0.007	*0.013*	0.004	*0.006*
Income	0.005 **	*0.002*	-0.011 ***	*0.003*	0.005 **	*0.002*	-0.029 ***	*0.005*	0.015 ***	*0.003*	0.005 *	*0.002*	0.018 ***	*0.003*	0.014 ***	*0.003*	0.040 ***	*0.007*	0.017 ***	*0.003*
Financial Wealth	-0.005 *	*0.003*	0.013 ***	*0.004*	0.007 ***	*0.003*	0.006	*0.004*	-0.012 ***	*0.003*	-0.008 **	*0.003*	-0.023 ***	*0.004*	-0.017 ***	*0.003*	-0.026 ***	*0.004*	-0.036 ***	*0.005*
Real Wealth	0.123 ***	*0.010*	0.012	*0.015*	-0.063 ***	*0.012*	-0.112 ***	*0.014*	0.030 ***	*0.006*	0.081 ***	*0.008*	-0.060 ***	*0.007*	-0.154 ***	*0.008*	0.001	*0.008*	-0.060 ***	*0.007*
Total Covariate Effects	**0.155 *** **	***0.011***	**0.021**	***0.019***	**-0.021**	***0.015***	**-0.126 *** **	***0.017***	**0.066 *** **	***0.010***	**0.120 *** **	***0.012***	**-0.022 ***	***0.012***	**-0.134 *** **	***0.013***	**0.055 *** **	***0.016***	**-0.040 *** **	***0.012***
Selected Coefficient Effects																				
Education	0.004	*0.023*	-0.007	*0.024*	0.015	*0.021*	0.020	*0.026*	-0.010	*0.013*	0.012	*0.024*	0.002	*0.010*	-0.018	*0.013*	0.000	*0.007*	-0.008	*0.015*
Income	0.038 *	*0.021*	0.069 *	*0.035*	0.044 *	*0.024*	0.116 ***	*0.043*	0.034 **	*0.015*	0.073 ***	*0.020*	0.022	*0.014*	0.016	*0.019*	0.002	*0.012*	0.050 ***	*0.017*
Financial Wealth	-0.018	*0.023*	-0.072 **	*0.035*	-0.036	*0.035*	-0.013	*0.041*	-0.040 **	*0.016*	-0.039	*0.024*	-0.030 *	*0.016*	0.014	*0.020*	-0.002	*0.017*	0.037 **	*0.016*
Real Wealth	0.158 ***	*0.015*	0.043 **	*0.018*	0.206 ***	*0.025*	0.107 ***	*0.033*	0.201 ***	*0.013*	0.210 ***	*0.014*	0.437 ***	*0.015*	0.251 ***	*0.021*	0.198 ***	*0.017*	0.332 ***	*0.018*
Constant	0.010	*0.056*	-0.031	*0.078*	0.099	*0.070*	0.142	*0.106*	-0.006	*0.042*	-0.006	*0.058*	0.028	*0.047*	0.125 *	*0.067*	-0.018	*0.053*	0.025	*0.066*
Coefficient Effects	**0.114 *** **	***0.012***	**0.021**	***0.015***	**0.196 *** **	***0.014***	**0.222 *** **	***0.018***	**0.174 *** **	***0.011***	**0.180 *** **	***0.012***	**0.398 *** **	***0.013***	**0.293 *** **	***0.016***	**0.161 *** **	***0.017***	**0.349 *** **	***0.013***

Panel B. Non-collateralized Debt

	DE		BE		NL		LU		FR		AT		IT		ES		PT		GR	
Total Difference	**0.281 *** **	***0.013***	**0.291 *** **	***0.021***	**0.382 *** **	***0.015***	**0.256 *** **	***0.021***	**0.298 *** **	***0.009***	**0.412 *** **	***0.012***	**0.439 *** **	***0.010***	**0.318 *** **	***0.012***	**0.439 *** **	***0.010***	**0.364 *** **	***0.013***
Selected Covariate Effects																				
Education	0.001	*0.001*	0.015 ***	*0.004*	0.012 ***	*0.004*	0.020 ***	*0.006*	0.024 ***	*0.006*	0.002	*0.003*	0.033 ***	*0.011*	0.037 ***	*0.011*	0.054 ***	*0.015*	0.027 ***	*0.008*
Income	0.006 ***	*0.002*	-0.016 ***	*0.005*	0.003	*0.002*	-0.032 ***	*0.006*	0.014 ***	*0.003*	0.005 *	*0.003*	0.016 ***	*0.003*	0.015 ***	*0.003*	0.044 ***	*0.008*	0.019 ***	*0.004*
Financial Wealth	-0.025 ***	*0.004*	0.002	*0.006*	-0.001	*0.004*	-0.009 *	*0.005*	-0.034 ***	*0.004*	-0.032 ***	*0.004*	-0.044 ***	*0.004*	-0.038 ***	*0.004*	-0.041 ***	*0.005*	-0.047 ***	*0.006*
Real Wealth	0.019 ***	*0.004*	0.018 ***	*0.004*	0.012 ***	*0.004*	0.027 ***	*0.008*	0.014 ***	*0.002*	0.015 ***	*0.003*	0.002	*0.003*	0.002	*0.006*	-0.009 ***	*0.002*	-0.009 ***	*0.002*
Total Covariate Effects	**0.038 *** **	***0.009***	**0.052 *** **	***0.014***	**0.053 *** **	***0.010***	**0.022**	***0.015***	**0.055 *** **	***0.009***	**0.034 *** **	***0.009***	**0.050 *** **	***0.013***	**0.018**	***0.015***	**0.082 *** **	***0.016***	**0.015**	***0.011***
Selected Coefficient Effects																				
Education	0.046	*0.039*	0.030	*0.033*	0.038	*0.026*	0.071 **	*0.031*	0.034 **	*0.015*	0.054 *	*0.029*	0.032 **	*0.014*	0.031 *	*0.016*	0.006	*0.007*	0.010	*0.018*
Income	0.024	*0.029*	0.081	*0.074*	0.051 *	*0.029*	-0.016	*0.067*	-0.027	*0.020*	0.026	*0.027*	0.023	*0.020*	-0.037	*0.023*	-0.002	*0.012*	-0.004	*0.022*
Financial Wealth	0.112 **	*0.043*	0.164 **	*0.081*	0.116 ***	*0.039*	0.007	*0.071*	0.114 ***	*0.022*	0.107 ***	*0.035*	0.087 ***	*0.022*	0.112 ***	*0.025*	0.045 ***	*0.017*	0.087 ***	*0.018*
Real Wealth	0.069 ***	*0.017*	0.095 **	*0.038*	0.066 **	*0.032*	0.057	*0.056*	0.034 **	*0.015*	0.111 ***	*0.021*	0.033	*0.023*	0.068 *	*0.036*	0.085 ***	*0.022*	0.031	*0.028*
Constant	0.039	*0.118*	-0.022	*0.211*	0.205 *	*0.118*	0.236	*0.201*	0.177 ***	*0.059*	-0.035	*0.092*	0.357 ***	*0.080*	0.287 ***	*0.093*	0.367 ***	*0.096*	0.208 **	*0.087*
Coefficient Effects	**0.243 *** **	***0.014***	**0.240 *** **	***0.025***	**0.329 *** **	***0.018***	**0.235 *** **	***0.022***	**0.243 *** **	***0.012***	**0.378 *** **	***0.015***	**0.390 *** **	***0.017***	**0.299 *** **	***0.018***	**0.357 *** **	***0.019***	**0.349 *** **	***0.015***

Notes: The table reports results from decomposition analyses based on equation (1), comparing debt holdings in each euro area country to those in the United States. Results are based on decompositions using linear probability models. Panel A reports results for collateralized debt, Panel B for non-collateralized debt. Numbers in italics denote standard errors. */**/*** denote statistical significance at the 10%/5%/1% level. Country abbreviations are as explained in the notes to Table 1.

Table 3A: Decomposition results – differences in the conditional amounts of collateralized debt relative to the United States, at the 10th percentile

	DE		NL		BE		LU		FR		AT		IT		ES		PT		GR	
Total Difference	**0.517 *****	***0.159***	**-0.414 *****	***0.106***	**0.560 *****	***0.140***	**0.108**	***0.199***	**1.445 *****	***0.095***	**1.563 *****	***0.337***	**0.714 *****	***0.208***	**0.536 *****	***0.122***	**0.346**	***0.237***	**0.627 *****	***0.232***
Selected Covariate Effects																				
Education	0.001	*0.007*	-0.014	*0.046*	-0.008	*0.028*	-0.020	*0.073*	-0.011	*0.041*	-0.001	*0.032*	-0.022	*0.081*	-0.030	*0.102*	-0.051	*0.171*	-0.024	*0.079*
Income	-0.041 *	*0.021*	0.015	*0.020*	0.003	*0.016*	-0.090 **	*0.037*	0.040	*0.030*	0.002	*0.021*	0.033	*0.027*	0.073 *	*0.042*	0.231 **	*0.092*	0.106 **	*0.046*
Financial Wealth	0.007	*0.023*	0.012	*0.020*	0.009	*0.019*	0.007	*0.025*	-0.023	*0.035*	0.001	*0.025*	-0.020	*0.034*	-0.037	*0.039*	-0.042	*0.047*	-0.057	*0.092*
Real Wealth	-0.066 *	*0.036*	-0.240 ***	*0.052*	-0.209 ***	*0.045*	-0.311 ***	*0.083*	-0.093 **	*0.040*	-0.161 ***	*0.044*	-0.199 ***	*0.046*	-0.222 ***	*0.054*	-0.009	*0.025*	-0.080 **	*0.036*
Years since take-out	0.390 ***	*0.088*	0.608 ***	*0.136*	0.274 ***	*0.070*	0.351 ***	*0.094*	0.132 ***	*0.031*	0.385 ***	*0.105*	0.233 ***	*0.065*	0.244 ***	*0.053*	0.438 ***	*0.098*	0.083 **	*0.034*
Original loan duration	0.966 ***	*0.152*	-0.216 ***	*0.049*	0.544 ***	*0.089*	0.399 ***	*0.072*	0.955 ***	*0.156*	0.379	*0.342*	0.675 ***	*0.112*	0.260 ***	*0.052*	-0.112 **	*0.046*	0.580 ***	*0.101*
House price growth	0.121 ***	*0.040*	-0.124 ***	*0.039*	-0.166 ***	*0.053*	-0.196 ***	*0.067*	-0.256 ***	*0.083*	0.026	*0.019*	-0.049 **	*0.019*	-0.264 ***	*0.084*	0.032 ***	*0.012*	-0.198 ***	*0.065*
Total Covariate Effects	**1.415 *****	***0.220***	**0.023**	***0.149***	**0.432 *****	***0.131***	**0.125**	***0.160***	**0.701 *****	***0.173***	**0.604**	***0.362***	**0.663 *****	***0.164***	**0.007**	***0.161***	**0.489 ****	***0.222***	**0.429 *****	***0.160***
Selected Coefficient Effects																				
Education	-1.037	*0.879*	-0.077	*0.268*	-0.462	*0.439*	-0.358	*0.588*	-0.108	*0.276*	-0.127	*1.152*	-0.207	*0.302*	-0.011	*0.235*	0.065	*0.152*	-0.278	*0.364*
Income	0.034	*1.182*	0.749 **	*0.359*	-0.076	*0.540*	1.018	*1.665*	-0.013	*0.408*	1.036	*0.989*	0.504	*0.592*	0.705 *	*0.412*	0.332	*0.301*	0.726 *	*0.396*
Financial Wealth	-0.424	*0.945*	0.010	*0.365*	0.649	*0.495*	1.278	*1.362*	-0.009	*0.309*	0.776	*1.289*	0.086	*0.342*	0.297	*0.273*	-0.018	*0.306*	0.043	*0.179*
Real Wealth	4.077	*3.979*	7.594 ***	*1.707*	7.595 ***	*1.225*	7.903 ***	*1.666*	6.644 ***	*1.679*	5.941	*4.364*	7.018 ***	*1.532*	6.440 ***	*1.833*	4.843	*8.829*	7.739 ***	*1.322*
Years since take-out	-0.660 *	*0.344*	-0.814 **	*0.326*	0.052	*0.384*	0.086	*0.929*	-0.071	*0.249*	-0.874 **	*0.421*	-0.056	*0.423*	0.801 *	*0.434*	-0.828 **	*0.360*	-0.406	*0.366*
Original loan duration	0.716 *	*0.410*	2.311 ***	*0.504*	0.920	*0.642*	-1.368	*2.678*	-0.801 *	*0.428*	1.595	*1.080*	0.432	*0.791*	-0.034	*0.633*	-0.366	*1.231*	1.230 **	*0.551*
House price growth	-0.161	*0.242*	0.119	*0.102*	-0.035	*0.188*	0.730	*0.451*	0.310 **	*0.146*	0.109	*0.068*	-0.084	*0.145*	0.080	*0.172*	-0.004	*0.044*	-0.281	*0.490*
Constant	-2.706	*4.552*	-9.927 ***	*1.883*	-6.722 ***	*1.920*	-7.275	*4.424*	-5.406 ***	*1.880*	-6.021	*5.286*	-7.354 ***	*1.938*	-7.019 ***	*2.161*	-3.796	*8.833*	-8.086 ***	*1.799*
Coefficient Effects	**-0.898 *****	***0.247***	**-0.437 ****	***0.170***	**0.128**	***0.165***	**-0.016**	***0.228***	**0.744 *****	***0.178***	**0.959 ****	***0.373***	**0.051**	***0.239***	**0.528 *****	***0.197***	**-0.143**	***0.317***	**0.197**	***0.272***

Notes: The table reports results from decomposition analyses based on equation (1), comparing debt holdings in each euro area country to those in the United States. Amounts of debt outstanding are conditional on holding this type of debt. Results are based on decompositions using RIF regressions. Numbers in italics denote standard errors. */**/*** denote statistical significance at the 10%/5%/1% level. Country abbreviations are as explained in the notes to Table 1.

Table 3B: Decomposition results – differences in the conditional amounts of collateralized debt relative to the United States, at the 50th percentile

	DE		NL		BE		LU		FR		AT		IT		ES		PT		GR	
Total Difference	**0.102**	***0.066***	**-0.342 *****	***0.043***	**0.319 *****	***0.081***	**-0.190 ****	***0.089***	**0.541 *****	***0.041***	**0.769 ****	***0.298***	**0.338 *****	***0.081***	**0.267 *****	***0.052***	**0.399 *****	***0.057***	**0.379 *****	***0.082***
Selected Covariate Effects																				
Education	0.001	*0.004*	0.028 *	*0.015*	0.009	*0.009*	0.042 **	*0.021*	0.033 ***	*0.013*	0.040 ***	*0.013*	0.063 **	*0.026*	0.049	*0.031*	0.102 **	*0.050*	0.055 **	*0.026*
Income	-0.023 **	*0.010*	0.022 **	*0.010*	0.006	*0.010*	-0.074 ***	*0.016*	0.056 ***	*0.013*	0.012	*0.013*	0.045 ***	*0.014*	0.077 ***	*0.017*	0.134 ***	*0.030*	0.079 ***	*0.018*
Financial Wealth	0.004	*0.010*	0.010	*0.008*	0.004	*0.008*	0.001	*0.010*	-0.021 *	*0.013*	0.000	*0.010*	-0.030 **	*0.014*	-0.040 **	*0.016*	-0.047 ***	*0.017*	-0.080 **	*0.032*
Real Wealth	-0.100 ***	*0.028*	-0.256 ***	*0.028*	-0.226 ***	*0.028*	-0.420 ***	*0.042*	-0.176 ***	*0.022*	-0.188 ***	*0.033*	-0.231 ***	*0.032*	-0.259 ***	*0.027*	0.018	*0.024*	-0.091 ***	*0.028*
Years since take-out	0.191 ***	*0.024*	0.297 ***	*0.037*	0.134 ***	*0.021*	0.172 ***	*0.028*	0.065 ***	*0.011*	0.188 ***	*0.037*	0.114 ***	*0.021*	0.119 ***	*0.015*	0.214 ***	*0.023*	0.040 ***	*0.015*
Original loan duration	0.383 ***	*0.038*	-0.086 ***	*0.016*	0.216 ***	*0.023*	0.158 ***	*0.021*	0.379 ***	*0.034*	0.149	*0.136*	0.268 ***	*0.029*	0.103 ***	*0.015*	-0.044 **	*0.018*	0.230 ***	*0.027*
House price growth	0.034 **	*0.014*	-0.035 **	*0.014*	-0.047 **	*0.019*	-0.055 **	*0.022*	-0.073 **	*0.030*	0.007	*0.006*	-0.014 **	*0.006*	-0.075 **	*0.031*	0.009 **	*0.004*	-0.056 **	*0.023*
Total Covariate Effects	**0.517 *****	***0.062***	**0.022**	***0.056***	**0.077**	***0.051***	**-0.191 *****	***0.067***	**0.246 *****	***0.060***	**0.201**	***0.159***	**0.194 *****	***0.061***	**-0.050**	***0.068***	**0.363 *****	***0.071***	**0.159 ****	***0.062***
Selected Coefficient Effects																				
Education	-0.031	*0.312*	0.077	*0.107*	0.206	*0.147*	0.025	*0.159*	0.028	*0.088*	-0.143	*0.359*	-0.001	*0.116*	0.044	*0.071*	0.073	*0.049*	0.166	*0.134*
Income	0.019	*0.337*	0.179	*0.215*	-0.149	*0.256*	-0.699	*0.653*	0.058	*0.117*	-0.136	*0.574*	0.220	*0.234*	0.040	*0.116*	0.004	*0.092*	0.150	*0.205*
Financial Wealth	-0.165	*0.422*	0.014	*0.265*	0.203	*0.262*	0.072	*0.407*	-0.094	*0.122*	-0.238	*0.472*	-0.148	*0.139*	-0.114	*0.112*	0.074	*0.108*	-0.003	*0.089*
Real Wealth	-1.168	*0.843*	0.419	*0.880*	-0.036	*0.700*	-0.176	*1.157*	0.733 **	*0.348*	0.111	*1.062*	0.280	*0.499*	0.088	*0.520*	0.291	*0.864*	2.189	*2.082*
Years since take-out	-0.315 ***	*0.106*	-0.247 ***	*0.087*	0.243	*0.149*	0.379 *	*0.199*	0.376 ***	*0.070*	0.014	*0.331*	0.217	*0.146*	0.431 ***	*0.120*	0.014	*0.110*	0.704 **	*0.291*
Original loan duration	0.288 **	*0.131*	0.825 ***	*0.154*	-0.665 *	*0.359*	-0.930 *	*0.481*	-1.318 ***	*0.151*	-0.203	*0.605*	-1.234 ***	*0.300*	-0.614 ***	*0.212*	-0.132	*0.208*	-0.488 *	*0.285*
House price growth	-0.089	*0.074*	0.080 **	*0.039*	-0.079	*0.100*	-0.035	*0.099*	-0.043	*0.050*	0.037	*0.023*	-0.132 **	*0.052*	0.005	*0.057*	-0.010	*0.012*	-0.170	*0.174*
Constant	0.846	*1.053*	-2.111 **	*1.001*	0.619	*0.919*	1.607	*1.612*	0.444	*0.460*	0.681	*1.688*	0.159	*0.702*	0.064	*0.607*	-0.579	*0.901*	-2.238	*2.322*
Coefficient Effects	**-0.415 *****	***0.078***	**-0.364 *****	***0.056***	**0.241 *****	***0.079***	**0.001**	***0.093***	**0.295 *****	***0.060***	**0.568 ****	***0.215***	**0.144 ***	***0.082***	**0.317 *****	***0.069***	**0.036**	***0.076***	**0.220 ****	***0.086***

Notes: The table reports results from decomposition analyses based on equation (1), comparing debt holdings in each euro area country to those in the United States. Amounts of debt outstanding are conditional on holding this type of debt. Results are based on decompositions using RIF regressions. Numbers in italics denote standard errors. */**/*** denote statistical significance at the 10%/5%/1% level. Country abbreviations are as explained in the notes to Table 1.

Table 3C: Decomposition results – differences in the conditional amounts of collateralized debt relative to the United States, at the 90th percentile

	DE		NL		BE		LU		FR		AT		IT		ES		PT		GR	
Total Difference	**0.177** **	***0.072***	**0.011**	***0.057***	**0.456** ***	***0.069***	**-0.256** ***	***0.068***	**0.507** ***	***0.039***	**0.306**	***0.308***	**0.378** ***	***0.084***	**0.288** ***	***0.063***	**0.594** ***	***0.066***	**0.487** ***	***0.087***
Selected Covariate Effects																				
Education	0.005	*0.006*	0.000	*0.015*	-0.009	*0.009*	0.004	*0.021*	0.016	*0.014*	0.051 ***	*0.019*	0.026	*0.027*	-0.012	*0.027*	0.005	*0.049*	0.014	*0.025*
Income	-0.004	*0.011*	0.037 ***	*0.013*	0.013	*0.010*	-0.061 ***	*0.023*	0.069 ***	*0.018*	0.018	*0.016*	0.058 ***	*0.018*	0.064 ***	*0.021*	0.048	*0.035*	0.050 **	*0.021*
Financial Wealth	0.019	*0.014*	0.001	*0.012*	0.011	*0.012*	0.024	*0.016*	0.056 ***	*0.020*	0.026 *	*0.015*	0.066 ***	*0.023*	0.065 ***	*0.023*	0.068 ***	*0.025*	0.085 **	*0.035*
Real Wealth	-0.107 ***	*0.030*	-0.130 ***	*0.038*	-0.135 ***	*0.036*	-0.490 ***	*0.057*	-0.116 ***	*0.025*	-0.154 ***	*0.040*	-0.187 ***	*0.042*	-0.207 ***	*0.035*	0.064 ***	*0.022*	-0.047	*0.032*
Years since take-out	0.105 ***	*0.019*	0.164 ***	*0.028*	0.074 ***	*0.015*	0.095 ***	*0.020*	0.036 ***	*0.008*	0.104 ***	*0.023*	0.063 ***	*0.015*	0.066 ***	*0.012*	0.118 ***	*0.020*	0.022 ***	*0.008*
Original loan duration	0.187 ***	*0.046*	-0.042 ***	*0.012*	0.105 ***	*0.026*	0.077 ***	*0.021*	0.185 ***	*0.046*	0.070	*0.068*	0.131 ***	*0.034*	0.050 ***	*0.013*	-0.022 **	*0.010*	0.112 ***	*0.029*
House price growth	-0.018	*0.021*	0.018	*0.021*	0.024	*0.026*	0.029	*0.034*	0.038	*0.042*	-0.004	*0.005*	0.007	*0.009*	0.039	*0.044*	-0.005	*0.005*	0.029	*0.033*
Total Covariate Effects	**0.181** ***	***0.066***	**0.126** *	***0.070***	**0.112**	***0.073***	**-0.280** ***	***0.078***	**0.299** ***	***0.084***	**0.101**	***0.096***	**0.125** *	***0.075***	**0.066**	***0.081***	**0.262** ***	***0.074***	**0.206** ***	***0.069***
Selected Coefficient Effects																				
Education	-0.285 *	*0.169*	-0.067	*0.094*	-0.215	*0.135*	-0.135	*0.139*	-0.014	*0.079*	-0.492	*0.493*	-0.005	*0.111*	0.115	*0.077*	-0.029	*0.068*	-0.103	*0.143*
Income	-0.228	*0.316*	0.026	*0.251*	-0.024	*0.307*	-0.071	*0.268*	-0.161	*0.112*	0.313	*1.137*	0.245	*0.309*	-0.264 **	*0.121*	-0.292 **	*0.123*	-0.088	*0.241*
Financial Wealth	0.114	*0.191*	-0.011	*0.185*	0.038	*0.156*	0.205	*0.252*	-0.025	*0.098*	0.586	*0.757*	0.231	*0.220*	0.056	*0.102*	-0.002	*0.108*	0.060	*0.102*
Real Wealth	0.130	*0.754*	0.308	*0.517*	0.253	*0.327*	0.291	*0.553*	-0.013	*0.536*	0.330	*0.785*	-0.006	*0.360*	0.037	*0.426*	0.384	*0.659*	-0.106	*0.613*
Years since take-out	-0.004	*0.137*	-0.195 **	*0.096*	0.174 *	*0.104*	0.063	*0.119*	0.096 *	*0.052*	0.287	*0.513*	0.029	*0.116*	0.204 *	*0.119*	0.163	*0.114*	0.450 **	*0.189*
Original loan duration	-0.021	*0.182*	0.506	*0.295*	-0.422 *	*0.248*	-0.633 *	*0.335*	-0.514 ***	*0.103*	-0.508	*0.491*	-0.529 *	*0.274*	-0.459 **	*0.216*	-0.049	*0.322*	-0.549 *	*0.296*
House price growth	0.143 *	*0.076*	0.026	*0.048*	0.133	*0.119*	0.079	*0.113*	0.022	*0.064*	-0.001	*0.025*	0.016	*0.054*	0.021	*0.088*	-0.004	*0.011*	0.210	*0.192*
Constant	-0.083	*0.931*	-1.222	*0.835*	0.227	*0.545*	0.433	*0.968*	0.475	*0.605*	-0.234	*2.634*	1.061 *	*0.619*	0.516	*0.548*	-0.162	*0.820*	-0.182	*0.930*
Coefficient Effects	**-0.004**	***0.087***	**-0.115**	***0.074***	**0.344** ***	***0.083***	**0.024**	***0.091***	**0.208** ***	***0.079***	**0.205**	***0.273***	**0.253** ***	***0.090***	**0.222** **	***0.092***	**0.332** ***	***0.089***	**0.281** ***	***0.101***

Notes: The table reports results from decomposition analyses based on equation (1), comparing debt holdings in each euro area country to those in the United States. Amounts of debt outstanding are conditional on holding this type of debt. Results are based on decompositions using RIF regressions. Numbers in italics denote standard errors. */**/*** denote statistical significance at the 10%/5%/1% level. Country abbreviations are as explained in the notes to Table 1.

Table 4A: Decomposition results – differences in the conditional amounts of non-collateralized debt relative to the United States, at the 10th percentile

	DE		NL		BE		LU		FR		AT		IT		ES		PT		GR	
Total Difference	**0.829 *****	***0.172***	**0.219**	***0.525***	**0.390 *****	***0.122***	**-0.217**	***0.243***	**0.399 *****	***0.108***	**0.880 *****	***0.203***	**-0.356 *****	***0.110***	**-0.116**	***0.225***	**0.869 *****	***0.150***	**-0.018**	***0.165***
Selected Covariate Effects																				
Education	0.047 **	*0.023*	0.139 **	*0.059*	0.139 **	*0.054*	0.295 ***	*0.100*	0.230 ***	*0.071*	0.110 **	*0.048*	0.412 ***	*0.127*	0.422 ***	*0.144*	0.636 ***	*0.199*	0.222 ***	*0.074*
Income	0.057 **	*0.028*	-0.074 *	*0.043*	0.010	*0.024*	-0.190 ***	*0.068*	0.027	*0.034*	0.047	*0.030*	0.034	*0.027*	0.008	*0.033*	0.211 **	*0.082*	0.007	*0.026*
Financial Wealth	-0.018	*0.025*	0.011	*0.026*	-0.006	*0.016*	-0.001	*0.028*	-0.012	*0.033*	-0.016	*0.026*	-0.021	*0.032*	-0.019	*0.034*	-0.021	*0.045*	-0.037	*0.054*
Real Wealth	0.176 **	*0.069*	0.100 **	*0.050*	0.024	*0.034*	-0.040	*0.079*	0.071 ***	*0.026*	0.175 **	*0.078*	-0.044	*0.040*	-0.063	*0.060*	0.013	*0.019*	-0.044	*0.033*
Total Covariate Effects	**0.187 ****	***0.088***	**0.085**	***0.141***	**0.101**	***0.086***	**-0.034**	***0.161***	**0.264 *****	***0.096***	**0.307 *****	***0.109***	**0.407 *****	***0.143***	**0.300 ***	***0.161***	**0.796 *****	***0.210***	**0.065**	***0.101***
Selected Coefficient Effects																				
Education	1.360 **	*0.664*	0.219	*1.341*	0.956 ***	*0.363*	1.095 **	*0.486*	0.712 **	*0.301*	1.172 *	*0.633*	0.540 **	*0.211*	0.713 **	*0.287*	0.262 *	*0.138*	0.953 **	*0.385*
Income	0.234	*0.474*	2.710	*2.532*	0.374	*0.516*	1.230	*1.933*	-0.424	*0.476*	-0.369	*0.804*	0.611 **	*0.257*	0.044	*0.532*	0.148	*0.232*	0.289	*0.445*
Financial Wealth	-0.848	*0.617*	1.317	*1.701*	-0.092	*0.322*	-0.428	*1.209*	-0.684 *	*0.373*	-0.029	*0.512*	-0.054	*0.206*	0.478	*0.355*	-0.212	*0.231*	0.079	*0.207*
Real Wealth	0.189	*0.236*	0.446	*0.706*	0.270	*0.348*	-0.647	*1.642*	-0.121	*0.231*	0.500 *	*0.288*	0.283	*0.323*	-1.131	*0.766*	0.345	*0.347*	0.350	*0.463*
Constant	-1.419	*1.479*	-4.114	*5.560*	-1.624	*1.328*	-0.488	*3.925*	1.350	*1.223*	-1.285	*1.578*	-3.391 ***	*0.826*	-2.483	*1.710*	-1.557	*1.081*	-3.137 **	*1.494*
Coefficient Effects	**0.643 *****	***0.190***	**0.134**	***0.533***	**0.290 ***	***0.148***	**-0.183**	***0.279***	**0.135**	***0.155***	**0.572 ****	***0.231***	**-0.763 *****	***0.184***	**-0.416**	***0.285***	**0.073**	***0.277***	**-0.083**	***0.187***

Notes: The table reports results from decomposition analyses based on equation (1), comparing debt holdings in each euro area country to those in the United States. Amounts of debt outstanding are conditional on holding this type of debt. Results are based on decompositions using RIF regressions. Numbers in italics denote standard errors. */**/*** denote statistical significance at the 10%/5%/1% level. Country abbreviations are as explained in the notes to Table 1.

Table 4B: Decomposition results – differences in the conditional amounts of collateralized debt relative to the United States, at the 50th percentile

	DE		NL		BE		LU		FR		AT		IT		ES		PT		GR	
Total Difference	**1.116** ***	***0.077***	**-0.555** **	***0.226***	**0.631** ***	***0.116***	**0.047**	***0.101***	**0.646** ***	***0.053***	**1.125** ***	***0.130***	**0.540** ***	***0.074***	**0.112**	***0.096***	**0.893** ***	***0.140***	**0.586** ***	***0.117***
Selected Covariate Effects																				
Education	0.044 ***	*0.013*	0.058 **	*0.026*	0.052 **	*0.023*	0.134 ***	*0.036*	0.116 ***	*0.024*	0.105 ***	*0.022*	0.200 ***	*0.045*	0.169 ***	*0.051*	0.275 ***	*0.074*	0.101 ***	*0.027*
Income	0.068 ***	*0.018*	-0.029	*0.031*	0.012	*0.022*	-0.197 ***	*0.043*	0.094 ***	*0.020*	0.060 ***	*0.022*	0.065 ***	*0.018*	0.080 ***	*0.021*	0.221 ***	*0.037*	0.051 ***	*0.020*
Financial Wealth	-0.040 ***	*0.013*	0.002	*0.018*	-0.005	*0.012*	-0.014	*0.015*	-0.048 ***	*0.017*	-0.036 **	*0.014*	-0.048 ***	*0.017*	-0.042 **	*0.018*	-0.042	*0.026*	-0.038	*0.030*
Real Wealth	0.140 ***	*0.031*	0.040	*0.030*	-0.014	*0.021*	-0.111 **	*0.046*	0.028 **	*0.014*	0.139 ***	*0.034*	-0.072 ***	*0.024*	-0.104 ***	*0.030*	0.014	*0.012*	-0.058 ***	*0.018*
Total Covariate Effects	**0.237** ***	***0.049***	**0.140**	***0.085***	**0.080**	***0.052***	**-0.162** **	***0.076***	**0.200** ***	***0.043***	**0.340** ***	***0.055***	**0.178** ***	***0.065***	**0.047**	***0.071***	**0.471** ***	***0.083***	**0.057**	***0.054***
Selected Coefficient Effects																				
Education	0.580 **	*0.267*	0.262	*0.417*	0.320	*0.235*	0.207	*0.172*	0.289 ***	*0.104*	0.608 *	*0.350*	0.099	*0.093*	0.207 **	*0.100*	0.212 **	*0.108*	0.525 ***	*0.184*
Income	-0.176	*0.215*	-0.359	*1.051*	-0.132	*0.369*	0.677	*0.600*	-0.192	*0.130*	-0.296	*0.374*	0.275 *	*0.161*	0.058	*0.211*	-0.146	*0.204*	-0.105	*0.269*
Financial Wealth	-0.213	*0.201*	0.954	*0.611*	-0.197	*0.319*	-0.146	*0.351*	0.075	*0.126*	-0.600 *	*0.309*	0.246 *	*0.131*	0.519 ***	*0.173*	0.030	*0.201*	0.181	*0.129*
Real Wealth	0.143	*0.123*	0.046	*0.326*	-0.129	*0.306*	-0.325	*0.330*	-0.115	*0.106*	0.443 **	*0.175*	0.018	*0.189*	-0.177	*0.240*	-0.326	*0.326*	0.042	*0.277*
Constant	-0.201	*0.614*	-2.907	*1.842*	-0.224	*0.889*	-0.568	*1.158*	0.486	*0.339*	1.157	*0.944*	-0.663	*0.474*	-1.308 **	*0.602*	-0.589	*1.284*	-1.517 *	*0.779*
Coefficient Effects	**0.879** ***	***0.091***	**-0.694** ***	***0.219***	**0.551** ***	***0.122***	**0.209** *	***0.115***	**0.445** ***	***0.061***	**0.785** ***	***0.135***	**0.362** ***	***0.101***	**0.065**	***0.121***	**0.422** ***	***0.158***	**0.529** ***	***0.126***

Notes: The table reports results from decomposition analyses based on equation (1), comparing debt holdings in each euro area country to those in the United States. Amounts of debt outstanding are conditional on holding this type of debt. Results are based on decompositions using RIF regressions. Numbers in italics denote standard errors. */**/*** denote statistical significance at the 10%/5%/1% level. Country abbreviations are as explained in the notes to Table 1.

Table 4C: Decomposition results – differences in the conditional amounts of collateralized debt relative to the United States, at the 90th percentile

	DE		NL		BE		LU		FR		AT		IT		ES		PT		GR	
Total Difference	**0.847 *****	***0.095***	**-0.850 *****	***0.174***	**0.675 *****	***0.122***	**0.156**	***0.143***	**0.120**	***0.104***	**0.298 ***	***0.173***	**-0.073**	***0.133***	**0.090**	***0.113***	**0.797 *****	***0.090***	**0.477 *****	***0.091***
Selected Covariate Effects																				
Education	0.080 ***	*0.018*	0.048	*0.032*	0.030	*0.022*	0.129 ***	*0.029*	0.126 ***	*0.022*	0.192 ***	*0.031*	0.212 ***	*0.036*	0.125 ***	*0.036*	0.242 ***	*0.052*	0.098 ***	*0.025*
Income	0.065 ***	*0.017*	0.020	*0.027*	0.018	*0.019*	-0.166 ***	*0.040*	0.113 ***	*0.021*	0.099 ***	*0.021*	0.075 ***	*0.018*	0.094 ***	*0.020*	0.160 ***	*0.035*	0.060 ***	*0.018*
Financial Wealth	-0.048 ***	*0.015*	0.015	*0.022*	0.001	*0.014*	-0.003	*0.018*	-0.062 ***	*0.018*	-0.047 ***	*0.015*	-0.066 ***	*0.018*	-0.064 ***	*0.018*	-0.073 ***	*0.026*	-0.077 ***	*0.029*
Real Wealth	0.009	*0.024*	-0.019	*0.019*	-0.018	*0.017*	-0.096 *	*0.053*	-0.016	*0.013*	0.008	*0.026*	-0.040	*0.026*	-0.051	*0.035*	0.012	*0.009*	-0.022	*0.017*
Total Covariate Effects	**0.180 *****	***0.050***	**0.136 ***	***0.080***	**0.077**	***0.048***	**-0.076**	***0.080***	**0.177 *****	***0.038***	**0.278 *****	***0.053***	**0.155 *****	***0.049***	**0.074**	***0.062***	**0.355 *****	***0.060***	**0.037**	***0.053***
Selected Coefficient Effects																				
Education	0.112	*0.256*	0.495 *	*0.252*	0.142	*0.234*	0.166	*0.260*	-0.039	*0.143*	0.336	*0.465*	0.104	*0.140*	0.281 **	*0.112*	0.118 *	*0.068*	0.304 *	*0.168*
Income	0.176	*0.307*	0.052	*0.618*	-0.073	*0.289*	0.431	*0.458*	-0.173	*0.208*	-0.017	*0.338*	-0.174	*0.343*	-0.521 ***	*0.200*	-0.069	*0.106*	-0.047	*0.181*
Financial Wealth	0.014	*0.208*	-0.223	*0.363*	0.068	*0.265*	-0.130	*0.468*	-0.010	*0.189*	-0.280	*0.282*	0.544 *	*0.286*	0.218	*0.201*	0.039	*0.122*	0.208 *	*0.107*
Real Wealth	-0.193	*0.156*	-0.184	*0.281*	-0.141	*0.258*	-0.023	*0.338*	-1.144 ***	*0.229*	-0.021	*0.188*	-0.680 **	*0.282*	0.094	*0.284*	-0.078	*0.147*	-0.144	*0.184*
Constant	-1.044	*0.867*	-1.561	*1.750*	-0.199	*0.821*	0.377	*1.227*	1.959 ***	*0.625*	0.341	*1.083*	0.694	*0.866*	-0.915	*1.165*	-1.837 *	*1.098*	0.384	*0.674*
Coefficient Effects	**0.667 *****	***0.166***	**-0.987 *****	***0.171***	**0.597 *****	***0.128***	**0.232**	***0.156***	**-0.058**	***0.111***	**0.020**	***0.181***	**-0.228 ***	***0.136***	**0.016**	***0.133***	**0.443 *****	***0.113***	**0.440 *****	***0.100***

Notes: The table reports results from decomposition analyses based on equation (1), comparing debt holdings in each euro area country to those in the United States. Amounts of debt outstanding are conditional on holding this type of debt. Results are based on decompositions using RIF regressions. Numbers in italics denote standard errors. */**/*** denote statistical significance at the 10%/5%/1% level. Country abbreviations are as explained in the notes to Table 1.

Table 5: Decomposition results – differences in debt-service-to-income ratios relative to the United States

Panel A. Prob(DSIR)>33%

	DE		NL		BE		LU		FR		AT		IT		ES		PT		GR	
Total Difference	**0.121** ***	***0.006***	**0.080** ***	***0.014***	**0.109** ***	***0.010***	**0.088** ***	***0.011***	**0.110** ***	***0.006***	**0.137** ***	***0.010***	**0.128** ***	***0.006***	**0.035** ***	***0.009***	**0.083** ***	***0.008***	**0.110** ***	***0.008***
Selected Covariate Effects																				
Education	0.001	*0.001*	0.003	*0.003*	0.002	*0.003*	0.005	*0.005*	0.005	*0.005*	0.005 *	*0.003*	0.009	*0.008*	0.007	*0.008*	0.013	*0.012*	0.007	*0.006*
Income	-0.013 ***	*0.003*	0.003	*0.005*	-0.008 ***	*0.003*	0.050 ***	*0.006*	-0.033 ***	*0.003*	-0.014 ***	*0.004*	-0.035 ***	*0.004*	-0.028 ***	*0.003*	-0.059 ***	*0.006*	-0.032 ***	*0.004*
Financial Wealth	-0.008 ***	*0.003*	0.011 **	*0.005*	0.006 **	*0.003*	0.004	*0.004*	-0.017 ***	*0.003*	-0.012 ***	*0.003*	-0.026 ***	*0.004*	-0.021 ***	*0.003*	-0.029 ***	*0.004*	-0.038 ***	*0.006*
Real Wealth	0.061 ***	*0.006*	-0.003	*0.009*	-0.051 ***	*0.008*	-0.092 ***	*0.010*	0.009 **	*0.004*	0.038 ***	*0.005*	-0.040 ***	*0.005*	-0.098 ***	*0.007*	0.006	*0.004*	-0.033 ***	*0.004*
Total Covariate Effects	**0.065** ***	***0.007***	**0.010**	***0.013***	**-0.030** ***	***0.009***	**-0.025** **	***0.012***	**-0.020** ***	***0.007***	**0.042** ***	***0.008***	**-0.069** ***	***0.010***	**-0.127** ***	***0.011***	**-0.048** ***	***0.012***	**-0.079** ***	***0.009***
Selected Coefficient Effects																				
Education	0.021	*0.019*	0.003	*0.024*	0.003	*0.017*	-0.017	*0.017*	0.006	*0.012*	0.011	*0.017*	0.008	*0.009*	0.003	*0.011*	0.007	*0.005*	0.007	*0.012*
Income	-0.063 ***	*0.016*	0.062	*0.075*	-0.007	*0.025*	0.002	*0.048*	-0.019	*0.012*	-0.055 ***	*0.016*	-0.032 **	*0.013*	0.006	*0.018*	0.018 *	*0.010*	-0.013	*0.016*
Financial Wealth	-0.056 ***	*0.017*	-0.065 *	*0.038*	-0.020	*0.027*	-0.041	*0.035*	-0.041 ***	*0.015*	-0.048 ***	*0.015*	-0.033 **	*0.014*	0.025	*0.021*	-0.003	*0.015*	0.004	*0.011*
Real Wealth	0.153 ***	*0.013*	0.190 ***	*0.018*	0.219 ***	*0.023*	0.205 ***	*0.032*	0.179 ***	*0.012*	0.201 ***	*0.015*	0.262 ***	*0.014*	0.174 ***	*0.023*	0.160 ***	*0.016*	0.228 ***	*0.017*
Constant	0.044	*0.045*	-0.067	*0.086*	-0.006	*0.054*	0.035	*0.100*	0.049	*0.038*	0.044	*0.042*	0.016	*0.047*	0.086	*0.056*	-0.010	*0.047*	0.030	*0.058*
Coefficient Effects	**0.056** ***	***0.008***	**0.070** ***	***0.016***	**0.139** ***	***0.012***	**0.113** ***	***0.016***	**0.129** ***	***0.009***	**0.095** ***	***0.010***	**0.197** ***	***0.012***	**0.162** ***	***0.015***	**0.131** ***	***0.014***	**0.189** ***	***0.012***

Panel B. Differences in DSIRs: P90

	DE		NL		BE		LU		FR		AT		IT		ES		PT		GR	
Total Difference	0.133 ***	*0.038*	0.066	*0.071*	0.128 *	*0.065*	0.143 ***	*0.039*	0.135 ***	*0.018*	0.247 **	*0.085*	0.100 **	*0.049*	-0.066 *	*0.037*	0.007	*0.034*	0.061 *	*0.033*
Selected Covariate Effects																				
Education	0.000	*0.001*	0.003	*0.009*	0.000	*0.004*	0.004	*0.012*	0.004	*0.008*	0.008	*0.006*	0.008	*0.016*	0.003	*0.017*	0.010	*0.030*	0.006	*0.015*
Income	0.042 ***	*0.012*	-0.014	*0.012*	0.000	*0.013*	0.098 ***	*0.018*	-0.038 ***	*0.008*	0.002	*0.014*	-0.034 ***	*0.012*	-0.070 ***	*0.013*	-0.220 ***	*0.030*	-0.098 ***	*0.019*
Financial Wealth	0.001	*0.005*	0.004	*0.004*	0.001	*0.004*	0.000	*0.005*	-0.011 *	*0.006*	-0.002	*0.005*	-0.015 **	*0.006*	-0.019 **	*0.007*	-0.023 **	*0.009*	-0.035 **	*0.016*
Real Wealth	-0.025 ***	*0.007*	-0.066 ***	*0.010*	-0.058 ***	*0.010*	-0.117 ***	*0.016*	-0.044 ***	*0.007*	-0.041 ***	*0.008*	-0.059 ***	*0.011*	-0.070 ***	*0.011*	0.010 *	*0.006*	-0.020 ***	*0.007*
Total Covariate Effects	**0.028** *	***0.015***	**-0.094** ***	***0.025***	**-0.075** ***	***0.020***	**-0.020**	***0.023***	**-0.096** ***	***0.016***	**-0.033** *	***0.019***	**-0.103** ***	***0.023***	**-0.177** ***	***0.028***	**-0.234** ***	***0.041***	**-0.148** ***	***0.025***
Selected Coefficient Effects																				
Education	0.066	*0.116*	-0.023	*0.076*	-0.039	*0.095*	-0.023	*0.045*	0.008	*0.045*	-0.156	*0.176*	0.017	*0.057*	0.003	*0.043*	-0.009	*0.023*	-0.009	*0.051*
Income	-0.180	*0.210*	0.351	*0.471*	0.065	*0.513*	-0.139	*0.265*	-0.270 ***	*0.078*	-0.243	*0.261*	-0.031	*0.258*	-0.030	*0.144*	0.001	*0.100*	-0.086	*0.142*
Financial Wealth	-0.224 **	*0.092*	-0.044	*0.220*	0.012	*0.114*	0.011	*0.093*	-0.029	*0.044*	-0.062	*0.137*	0.036	*0.082*	0.091	*0.074*	-0.001	*0.069*	0.009	*0.042*
Real Wealth	0.476 *	*0.277*	0.227	*0.372*	0.363	*0.261*	0.348	*0.276*	0.246	*0.250*	0.374 *	*0.224*	0.312	*0.285*	0.212	*0.271*	-0.116	*0.451*	0.385	*0.806*
Constant	0.175	*0.367*	-0.234	*0.744*	0.097	*0.559*	0.327	*0.449*	0.463 *	*0.267*	0.612	*0.390*	-0.137	*0.509*	-0.062	*0.324*	0.389	*0.538*	-0.043	*0.907*
Coefficient Effects	**0.106** ***	***0.036***	**0.159** **	***0.074***	**0.203** ***	***0.060***	**0.163** ***	***0.041***	**0.230** ***	***0.027***	**0.280** **	***0.087***	**0.203** ***	***0.050***	**0.111** **	***0.050***	**0.242** ***	***0.062***	**0.209** ***	***0.038***

Notes: The table reports results from decomposition analyses based on equation (1), comparing debt holdings in each euro area country to those in the United States. Panel A reports results from decompositions based on linear probability models explaining the prevalence of DSIRs larger than 33%, Panel B reports results from decompositions based on RIF regressions explaining the DSIR at the 90th percentile of the national distribution. Numbers in italics denote standard errors. */**/*** denote statistical significance at the 10%/5%/1% level. Country abbreviations are as explained in the notes to Table 1.

Appendix

Table A.1 Summary statistics for household characteristics

	Age			Marital status			Education		Work status				Household
	<40	*40-49*	*50-59*	*Couple*	*Single*	*Widowed*	*High school*	*College*	*Employed*	*Self-employed*	*Retired*	*Oth. Inactive*	size
US	0.29	0.20	0.21	0.58	0.16	0.09	0.52	0.37	0.57	0.11	0.25	0.02	2.56
DE	0.26	0.20	0.17	0.50	0.25	0.13	0.57	0.31	0.49	0.07	0.31	0.08	2.04
NL	0.22	0.24	0.22	0.44	0.36	0.08	0.39	0.32	0.45	0.04	0.22	0.14	2.21
BE	0.27	0.20	0.19	0.55	0.20	0.13	0.38	0.36	0.44	0.05	0.33	0.07	2.29
LU	0.26	0.27	0.18	0.53	0.25	0.09	0.40	0.25	0.57	0.06	0.27	0.07	2.48
FR	0.28	0.18	0.17	0.46	0.29	0.14	0.40	0.21	0.45	0.08	0.35	0.06	2.23
AT	0.26	0.21	0.18	0.50	0.24	0.11	0.71	0.14	0.44	0.10	0.38	0.04	2.12
IT	0.15	0.23	0.18	0.62	0.14	0.16	0.34	0.11	0.41	0.12	0.41	0.02	2.53
ES	0.24	0.22	0.18	0.64	0.14	0.15	0.19	0.25	0.44	0.11	0.24	0.12	2.67
PT	0.19	0.21	0.20	0.66	0.11	0.15	0.13	0.09	0.42	0.11	0.37	0.04	2.69
GR	0.29	0.18	0.17	0.64	0.18	0.12	0.35	0.20	0.37	0.19	0.34	0.06	2.64
	Income			Financial wealth			Real wealth			Inheritance	Last year	Willing	Expect
	Q2	*Q3*	*Q4*	*Q2*	*Q3*	*Q4*	*Q2*	*Q3*	*Q4*	received	income low	take risks	income up
US	0.24	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.20	0.25	0.17	0.17
DE	0.28	0.27	0.18	0.32	0.39	0.15	0.19	0.17	0.20	0.34	0.16	0.03	0.11
NL	0.29	0.39	0.20	0.27	0.39	0.26	0.08	0.24	0.34	0.07	0.07	0.02	0.14
BE	0.28	0.23	0.21	0.26	0.35	0.25	0.08	0.27	0.41	0.34	0.19	0.05	0.08
LU	0.18	0.29	0.44	0.24	0.43	0.22	0.09	0.06	0.67	0.29	0.19	0.02	0.11
FR	0.36	0.27	0.10	0.39	0.33	0.12	0.13	0.24	0.29	0.40	.	.	.
AT	0.31	0.26	0.17	0.38	0.36	0.13	0.20	0.19	0.23	0.35	0.11	0.08	0.09
IT	0.32	0.24	0.10	0.38	0.34	0.06	0.18	0.26	0.35	.	0.18	0.19	0.13
ES	0.33	0.25	0.12	0.39	0.29	0.10	0.12	0.28	0.49	0.30	0.40	0.02	0.22
PT	0.27	0.12	0.06	0.39	0.24	0.07	0.31	0.28	0.19	0.29	0.23	0.02	0.05
GR	0.31	0.24	0.11	0.39	0.17	0.04	0.25	0.31	0.27	0.30	0.32	0.06	0.05

Notes: The table reports summary statistics for household characteristics in each country. Country abbreviations are as explained in the notes to Table 1. Dummy variables denoting households' positions in the income and wealth distributions are based on the quartiles of the U.S. distribution after adjusting for differences in PPP (more details are provided in Section 2.2). "." denotes that the respective information is not available. Statistics use survey weights and are adjusted for multiple imputations.

Table A.2 Linear probability regressions for the prevalence of collateralized debt by country

	US		DE		NL		BE		LU		FR		AT		IT		ES		PT		GR	
Age<40	0.082 ***	*0.021*	0.044	*0.037*	0.011	*0.050*	0.329 ***	*0.048*	0.351 ***	*0.076*	0.134 ***	*0.023*	0.110 ***	*0.042*	0.152 ***	*0.025*	0.386 ***	*0.036*	0.280 ***	*0.033*	0.120 ***	*0.040*
Age: 40-49	0.120 ***	*0.020*	0.101 ***	*0.038*	-0.009	*0.044*	0.289 ***	*0.050*	0.309 ***	*0.073*	0.142 ***	*0.023*	0.110 ***	*0.040*	0.129 ***	*0.020*	0.261 ***	*0.034*	0.281 ***	*0.031*	0.187 ***	*0.041*
Age: 50-59	0.104 ***	*0.019*	0.107 ***	*0.037*	0.017	*0.042*	0.042	*0.046*	0.277 ***	*0.068*	0.022	*0.022*	0.010	*0.034*	0.062 ***	*0.018*	0.073 **	*0.030*	0.120 ***	*0.024*	0.153 ***	*0.036*
Couple	-0.044 **	*0.017*	0.021	*0.030*	-0.046	*0.032*	-0.090 **	*0.039*	0.002	*0.050*	-0.068 ***	*0.015*	-0.018	*0.026*	-0.005	*0.018*	0.019	*0.034*	-0.024	*0.028*	0.071 ***	*0.027*
Single	-0.063 ***	*0.018*	-0.037	*0.028*	-0.035	*0.032*	-0.145 ***	*0.042*	-0.050	*0.053*	-0.073 ***	*0.015*	-0.043 *	*0.024*	-0.035 *	*0.020*	-0.140 ***	*0.038*	-0.099 ***	*0.032*	-0.025	*0.030*
Widowed	-0.066 **	*0.027*	0.030	*0.034*	-0.109 **	*0.053*	-0.107 **	*0.042*	-0.179 ***	*0.059*	-0.065 ***	*0.015*	0.021	*0.025*	0.013	*0.018*	-0.009	*0.036*	-0.037	*0.028*	0.041	*0.030*
High School grad	0.000	*0.019*	-0.007	*0.021*	0.007	*0.026*	-0.015	*0.024*	-0.052	*0.033*	0.017 *	*0.010*	-0.017	*0.020*	-0.005	*0.012*	0.015	*0.025*	0.011	*0.026*	0.018	*0.022*
College grad	0.025	*0.022*	0.026	*0.026*	0.038	*0.031*	0.000	*0.027*	0.029	*0.044*	0.032 **	*0.013*	0.023	*0.034*	0.017	*0.021*	0.085 ***	*0.025*	0.014	*0.031*	0.031	*0.028*
Employed	0.065 ***	*0.023*	0.072 ***	*0.023*	0.019	*0.034*	0.140 ***	*0.040*	0.102 **	*0.046*	0.080 ***	*0.014*	0.030	*0.038*	0.063 ***	*0.017*	0.045	*0.033*	0.057 **	*0.028*	-0.040	*0.045*
Self-employed	-0.002	*0.028*	0.090 **	*0.043*	-0.059	*0.098*	0.151 **	*0.065*	0.071	*0.067*	0.071 ***	*0.021*	-0.006	*0.049*	0.041 *	*0.025*	0.030	*0.044*	-0.035	*0.035*	-0.089 *	*0.047*
Retired	-0.069 **	*0.027*	-0.029	*0.038*	-0.014	*0.048*	-0.057	*0.054*	-0.083	*0.072*	-0.072 ***	*0.024*	-0.056	*0.045*	0.033	*0.023*	-0.061	*0.039*	-0.040	*0.030*	-0.023	*0.053*
Oth. Inactive	0.012	*0.040*	0.028	*0.027*	0.006	*0.043*	0.033	*0.046*	-0.074	*0.067*	-0.024	*0.015*	-0.034	*0.049*	0.014	*0.028*	-0.055	*0.040*	-0.105 ***	*0.038*	-0.060	*0.047*
HH size	0.011 **	*0.005*	0.017 *	*0.010*	0.032 ***	*0.012*	0.021 *	*0.011*	-0.001	*0.014*	0.016 ***	*0.005*	0.036 ***	*0.011*	0.001	*0.006*	0.004	*0.010*	-0.009	*0.007*	0.020 **	*0.009*
Income_Q2	0.038 **	*0.018*	-0.023	*0.021*	0.021	*0.041*	-0.016	*0.027*	-0.079 *	*0.042*	-0.012	*0.010*	-0.011	*0.021*	0.010	*0.011*	0.042 *	*0.022*	0.034	*0.021*	-0.004	*0.021*
Income_Q3	0.115 ***	*0.020*	0.046 *	*0.027*	0.008	*0.037*	0.050	*0.034*	-0.021	*0.051*	0.074 ***	*0.015*	-0.016	*0.026*	0.078 ***	*0.018*	0.076 ***	*0.027*	0.096 ***	*0.032*	0.011	*0.026*
Income_Q4	0.137 ***	*0.024*	0.127 ***	*0.037*	0.021	*0.044*	0.072 *	*0.041*	0.013	*0.055*	0.099 ***	*0.022*	0.011	*0.041*	0.111 ***	*0.029*	0.078 **	*0.039*	0.157 ***	*0.045*	0.034	*0.042*
Fin. wealth_Q2	-0.037 **	*0.018*	0.011	*0.022*	0.013	*0.040*	-0.024	*0.035*	-0.011	*0.044*	0.022 **	*0.010*	-0.001	*0.022*	-0.017	*0.012*	-0.067 ***	*0.021*	-0.031 *	*0.018*	-0.096 ***	*0.018*
Fin. wealth_Q3	-0.068 ***	*0.019*	-0.062 **	*0.025*	0.011	*0.040*	-0.032	*0.039*	-0.049	*0.052*	-0.038 ***	*0.012*	-0.034	*0.024*	-0.026	*0.016*	-0.087 ***	*0.025*	-0.068 ***	*0.023*	-0.138 ***	*0.029*
Fin. wealth_Q4	-0.169 ***	*0.022*	-0.161 ***	*0.039*	-0.060	*0.042*	-0.091 **	*0.044*	-0.176 ***	*0.061*	-0.135 ***	*0.018*	-0.064	*0.041*	-0.085 ***	*0.026*	-0.135 ***	*0.036*	-0.176 ***	*0.040*	-0.235 ***	*0.053*
Real wealth_Q2	0.435 ***	*0.017*	0.201 ***	*0.025*	0.047	*0.031*	0.224 ***	*0.051*	0.100 *	*0.058*	0.185 ***	*0.014*	0.138 ***	*0.021*	0.055 ***	*0.010*	0.243 ***	*0.030*	0.247 ***	*0.018*	0.176 ***	*0.018*
Real wealth_Q3	0.754	*0.017*	0.402 ***	*0.029*	0.779 ***	*0.033*	0.512 ***	*0.032*	0.541 ***	*0.074*	0.412 ***	*0.012*	0.385 ***	*0.029*	0.137 ***	*0.012*	0.440 ***	*0.023*	0.439 ***	*0.019*	0.267 ***	*0.021*
Real wealth_Q4	0.770 ***	*0.021*	0.502 ***	*0.033*	0.717 ***	*0.031*	0.467 ***	*0.032*	0.672 ***	*0.040*	0.458 ***	*0.013*	0.417 ***	*0.029*	0.177 ***	*0.014*	0.486 ***	*0.024*	0.492 ***	*0.030*	0.339 ***	*0.024*
Inherit. receiv.	-0.056 ***	*0.016*	-0.049 **	*0.020*	0.016	*0.039*	-0.004	*0.023*	-0.082 **	*0.033*	-	-	-0.021	*0.020*	-	-	-0.105 ***	*0.019*	-0.110 ***	*0.017*	-0.113 ***	*0.018*
Constant	-0.081 **	*0.033*	-0.091 **	*0.043*	-0.049	*0.066*	-0.180 ***	*0.059*	-0.223 **	*0.093*	-0.086 ***	*0.025*	-0.075	*0.051*	-0.119 ***	*0.030*	-0.205 ***	*0.051*	-0.063	*0.039*	-0.106 *	*0.056*
R2	0.45		0.37		0.57		0.44		0.48		0.35		0.27		0.13		0.35		0.34		0.17	
Observations	6,482		3,565		1,282		2,284		950		15,006		2,380		7,951		6,188		4,395		2,958	

Notes: The table reports results from linear probability models. Numbers in italics denote standard errors. */**/*** denote statistical significance at the 10%/5%/1% level. Country abbreviations are as explained in the notes to Table 1. Reported estimates are adjusted for multiple imputation.

Table A.3 Linear probability regressions for the prevalence of non-collateralized debt by country

	US		DE		NL		BE		LU		FR		AT		IT		ES		PT		GR	
Age<40	0.115 ***	*0.024*	0.185 ***	*0.051*	0.272 ***	*0.089*	-0.033	*0.057*	0.095	*0.091*	0.131 ***	*0.028*	0.082 *	*0.049*	0.049	*0.032*	0.038	*0.047*	0.112 ***	*0.035*	0.080 *	*0.045*
Age: 40-49	0.099 ***	*0.024*	0.089 *	*0.048*	0.067	*0.080*	0.067	*0.057*	0.094	*0.088*	0.120 ***	*0.027*	0.116 **	*0.049*	0.071 **	*0.030*	0.041	*0.044*	0.079 **	*0.031*	0.088 *	*0.046*
Age: 50-59	0.075 ***	*0.022*	0.064	*0.046*	0.082	*0.069*	0.073	*0.051*	0.129 *	*0.077*	0.108 ***	*0.024*	0.044	*0.040*	0.004	*0.025*	0.055	*0.039*	0.029	*0.025*	0.077 **	*0.039*
Couple	0.026	*0.021*	-0.105 **	*0.042*	0.133	*0.084*	-0.032	*0.043*	-0.005	*0.065*	-0.018	*0.019*	-0.090 ***	*0.034*	-0.020	*0.026*	-0.023	*0.039*	-0.073 **	*0.030*	-0.103 **	*0.040*
Single	-0.043 *	*0.023*	-0.116 **	*0.047*	0.044	*0.086*	-0.016	*0.047*	0.015	*0.070*	-0.067 ***	*0.021*	-0.094 ***	*0.035*	-0.034	*0.028*	-0.034	*0.042*	-0.065 *	*0.035*	-0.116 ***	*0.044*
Widowed	-0.074 **	*0.030*	-0.170 ***	*0.043*	-0.050	*0.085*	-0.051	*0.044*	-0.191 ***	*0.071*	-0.062 ***	*0.019*	-0.050	*0.038*	-0.003	*0.026*	-0.028	*0.044*	-0.024	*0.030*	-0.068	*0.042*
High School grad	0.083 ***	*0.023*	0.051	*0.035*	0.055	*0.050*	0.033	*0.031*	-0.006	*0.044*	0.048 ***	*0.013*	0.032	*0.027*	0.021	*0.016*	0.024	*0.031*	0.056 **	*0.028*	0.068 ***	*0.026*
College grad	0.076 ***	*0.026*	-0.013	*0.040*	0.016	*0.051*	0.023	*0.032*	-0.068	*0.055*	0.000	*0.017*	-0.049	*0.037*	-0.009	*0.024*	-0.002	*0.029*	0.053	*0.033*	0.055 *	*0.033*
Employed	-0.025	*0.029*	-0.023	*0.059*	-0.099	*0.076*	0.040	*0.052*	0.049	*0.119*	0.027	*0.027*	-0.089	*0.061*	0.009	*0.044*	0.060	*0.041*	0.022	*0.034*	0.049	*0.054*
Self-employed	-0.064 *	*0.033*	0.058	*0.070*	0.163	*0.128*	0.090	*0.079*	0.062	*0.134*	-0.051	*0.032*	-0.069	*0.068*	0.096 **	*0.048*	0.043	*0.050*	-0.004	*0.041*	0.027	*0.056*
Retired	-0.176 ***	*0.033*	-0.142 **	*0.066*	-0.079	*0.096*	-0.012	*0.064*	-0.007	*0.137*	-0.070 **	*0.033*	-0.132 *	*0.068*	-0.056	*0.047*	-0.028	*0.052*	-0.018	*0.036*	-0.059	*0.061*
Oth. Inactive	-0.055	*0.053*	-0.088	*0.070*	0.054	*0.102*	-0.056	*0.063*	0.028	*0.135*	-0.145 ***	*0.032*	-0.105	*0.080*	-0.135 ***	*0.048*	-0.030	*0.054*	-0.052	*0.042*	-0.091	*0.062*
HH size	0.010 *	*0.005*	0.033 **	*0.014*	0.008	*0.025*	0.063 ***	*0.014*	0.031 *	*0.018*	0.026 ***	*0.006*	0.027 **	*0.013*	0.031 ***	*0.008*	0.054 ***	*0.012*	0.039 ***	*0.009*	0.019 *	*0.011*
Income_Q2	0.053 **	*0.021*	0.038	*0.035*	-0.012	*0.082*	0.006	*0.031*	0.103	*0.076*	0.088 ***	*0.015*	0.035	*0.028*	0.030 *	*0.017*	0.137 ***	*0.027*	0.080 ***	*0.022*	0.068 ***	*0.023*
Income_Q3	0.122 ***	*0.024*	0.098 **	*0.042*	0.040	*0.079*	0.074 *	*0.040*	0.103	*0.076*	0.155 ***	*0.020*	0.081 *	*0.041*	0.079 ***	*0.022*	0.164 ***	*0.034*	0.100 ***	*0.035*	0.104 ***	*0.031*
Income_Q4	0.157 ***	*0.028*	0.085 *	*0.050*	0.022	*0.088*	0.036	*0.046*	0.185 **	*0.085*	0.148 ***	*0.028*	0.104 **	*0.047*	0.121 ***	*0.033*	0.151 ***	*0.047*	0.117 ***	*0.043*	0.188 ***	*0.044*
Fin. wealth_Q2	0.068 ***	*0.021*	-0.049	*0.044*	-0.122	*0.103*	-0.148 ***	*0.047*	0.055	*0.072*	-0.046 **	*0.018*	-0.097 **	*0.038*	-0.041 **	*0.020*	-0.082 ***	*0.027*	-0.003	*0.020*	-0.091 ***	*0.021*
Fin. wealth_Q3	0.015	*0.023*	-0.157 ***	*0.047*	-0.237 **	*0.095*	-0.144 ***	*0.049*	-0.033	*0.076*	-0.171 ***	*0.020*	-0.127 ***	*0.037*	-0.115 ***	*0.022*	-0.160 ***	*0.033*	-0.088 ***	*0.020*	-0.123 ***	*0.030*
Fin. wealth_Q4	-0.182 ***	*0.027*	-0.229 ***	*0.055*	-0.240 ***	*0.092*	-0.195 ***	*0.052*	-0.106	*0.082*	-0.238 ***	*0.024*	-0.132 **	*0.052*	-0.156 ***	*0.032*	-0.214 ***	*0.042*	-0.094 ***	*0.036*	-0.222 ***	*0.060*
Real wealth_Q2	0.120 ***	*0.019*	0.017	*0.035*	-0.006	*0.107*	0.150 **	*0.066*	0.041	*0.092*	0.044 **	*0.018*	-0.024	*0.031*	0.046 **	*0.021*	0.028	*0.044*	-0.013	*0.022*	0.056 *	*0.029*
Real wealth_Q3	0.127 ***	*0.022*	-0.023	*0.036*	-0.047	*0.060*	0.044	*0.042*	-0.165 **	*0.082*	0.042 ***	*0.015*	-0.084 ***	*0.032*	0.027	*0.020*	0.004	*0.036*	0.024	*0.023*	0.037	*0.029*
Real wealth_Q4	0.040	*0.026*	-0.078 **	*0.037*	-0.083	*0.054*	-0.068	*0.042*	-0.009	*0.066*	0.039 **	*0.016*	-0.144 ***	*0.031*	0.060 ***	*0.022*	-0.006	*0.037*	-0.036	*0.030*	0.093 ***	*0.035*
Inherit. receiv.	0.013	*0.016*	0.027	*0.025*	0.067	*0.059*	-0.026	*0.025*	0.005	*0.041*	-	-	0.006	*0.020*	-	-	-0.023	*0.021*	0.008	*0.017*	0.003	*0.020*
Last yr inc low	0.037 **	*0.015*	0.054 *	*0.031*	0.014	*0.091*	0.116 ***	*0.034*	-0.017	*0.050*	-	-	0.107 ***	*0.036*	0.101 ***	*0.019*	0.029	*0.021*	0.083 ***	*0.020*	-0.010	*0.020*
Willing take risk	-0.026	*0.017*	0.034	*0.073*	-0.040	*0.128*	-0.026	*0.057*	-0.028	*0.127*	-	-	-0.085 **	*0.039*	0.038 **	*0.016*	-0.003	*0.055*	0.022	*0.071*	-0.020	*0.039*
Exp income up	0.033 **	*0.016*	0.028	*0.041*	0.146 *	*0.078*	0.059	*0.046*	-0.056	*0.055*	-	-	-0.060 *	*0.035*	-0.045 **	*0.018*	0.073 ***	*0.027*	0.071 *	*0.042*	0.000	*0.046*
Constant	0.398 ***	*0.046*	0.359 ***	*0.103*	0.420 **	*0.198*	0.193 **	*0.092*	0.161	*0.200*	0.222 ***	*0.038*	0.433 ***	*0.083*	0.043	*0.056*	0.110	*0.087*	0.030	*0.085*	0.190 **	*0.085*
R2	0.158		0.159		0.140		0.137		0.106		0.141		0.104		0.104		0.131		0.110		0.122	
Observations	6,482		3,468		986		2,183		950		15,006		2,340		7,178		6,188		4,234		2,958	

Notes: The table reports results from linear probability models. Numbers in italics denote standard errors. */**/*** denote statistical significance at the 10%/5%/1% level. Country abbreviations are as explained in the notes to Table 1. Reported estimates are adjusted for multiple imputation.

Table A.4 RIF regressions for the amount of holdings of collateralized debt at the 50th percentile of the distribution by country

	US		DE		NL		BE		LU		FR		AT		IT		ES		PT		GR	
Age<40	0.085	*0.069*	1.073 ***	*0.260*	0.220	*0.186*	0.768 ***	*0.264*	0.534	*0.353*	0.080	*0.141*	0.191	*0.631*	0.014	*0.232*	-0.112	*0.142*	0.270	*0.169*	0.408 *	*0.239*
Age: 40-49	0.052	*0.065*	0.707 ***	*0.242*	-0.006	*0.191*	0.393	*0.251*	0.383	*0.344*	0.069	*0.128*	0.201	*0.616*	-0.293	*0.212*	0.085	*0.139*	0.095	*0.165*	0.131	*0.246*
Age: 50-59	0.026	*0.059*	0.535 **	*0.233*	0.013	*0.184*	0.220	*0.256*	0.053	*0.297*	-0.117	*0.112*	-0.146	*0.651*	-0.116	*0.196*	0.077	*0.137*	-0.113	*0.145*	-0.010	*0.230*
Couple	-0.087	*0.060*	-0.326	*0.226*	-0.290 *	*0.170*	-0.184	*0.177*	0.101	*0.313*	0.033	*0.091*	-0.052	*0.380*	-0.140	*0.157*	0.002	*0.120*	-0.092	*0.123*	-0.171	*0.251*
Single	-0.051	*0.081*	-0.544 *	*0.305*	-0.361 **	*0.172*	-0.431 **	*0.200*	-0.238	*0.340*	-0.065	*0.105*	-0.153	*0.502*	0.000	*0.175*	0.075	*0.147*	-0.079	*0.151*	-0.345	*0.289*
Widowed	-0.030	*0.102*	0.093	*0.334*	-0.293	*0.242*	0.263	*0.328*	-0.565	*0.656*	-0.148	*0.190*	-0.535	*0.684*	0.398	*0.350*	-0.111	*0.199*	0.113	*0.204*	-0.522 *	*0.309*
High School grad	0.073	*0.077*	0.271	*0.294*	-0.020	*0.108*	-0.200	*0.148*	0.072	*0.204*	0.026	*0.074*	0.120	*0.382*	0.199 *	*0.108*	0.149	*0.095*	-0.033	*0.097*	-0.169	*0.156*
College grad	0.206 **	*0.084*	0.348	*0.308*	0.178 *	*0.106*	0.042	*0.146*	0.178	*0.220*	0.258 ***	*0.079*	0.240	*0.423*	0.099	*0.135*	0.093	*0.087*	-0.062	*0.114*	-0.001	*0.162*
Employed	0.004	*0.108*	-0.310	*0.395*	-0.027	*0.114*	0.110	*0.272*	0.307	*0.547*	-0.016	*0.173*	0.166	*0.805*	-0.308	*0.260*	-0.194	*0.119*	-0.034	*0.134*	-0.037	*0.293*
Self-employed	0.083	*0.114*	-0.136	*0.416*	0.201	*0.280*	0.102	*0.316*	0.805	*0.583*	0.147	*0.185*	0.233	*0.926*	-0.117	*0.283*	-0.101	*0.155*	0.097	*0.162*	-0.032	*0.302*
Retired	-0.035	*0.118*	0.062	*0.459*	-0.378 **	*0.181*	0.554 *	*0.334*	0.376	*0.592*	-0.238	*0.198*	0.139	*1.335*	-0.578 **	*0.281*	-0.226	*0.168*	-0.141	*0.191*	-0.087	*0.341*
Oth. Inactive	-0.247	*0.181*	0.031	*0.469*	-0.331 *	*0.190*	-0.012	*0.356*	0.160	*0.619*	-0.306	*0.224*	-0.087	*1.119*	-0.991 ***	*0.356*	-0.185	*0.242*	-0.354	*0.270*	0.012	*0.551*
HH size	0.049 ***	*0.017*	-0.001	*0.053*	0.017	*0.048*	-0.066	*0.052*	-0.058	*0.062*	0.045	*0.028*	0.010	*0.121*	0.050	*0.042*	0.007	*0.041*	-0.055	*0.039*	0.027	*0.058*
Income_Q2	0.000	*0.072*	0.526	*0.355*	-0.037	*0.223*	0.250	*0.261*	0.688	*0.777*	0.019	*0.099*	0.356	*0.736*	-0.250	*0.183*	0.101	*0.115*	0.066	*0.100*	-0.079	*0.180*
Income_Q3	0.152 **	*0.072*	0.355	*0.343*	0.041	*0.235*	0.365	*0.251*	1.058 *	*0.536*	0.103	*0.109*	0.233	*0.706*	-0.003	*0.193*	0.120	*0.124*	0.217 *	*0.122*	0.263	*0.190*
Income_Q4	0.346 ***	*0.081*	0.529	*0.370*	0.116	*0.242*	0.502 **	*0.243*	1.138 **	*0.535*	0.451 ***	*0.123*	0.476	*0.764*	0.058	*0.230*	0.347 **	*0.148*	0.262	*0.176*	0.164	*0.230*
Fin. wealth_Q2	-0.080	*0.067*	0.113	*0.375*	-0.130	*0.261*	-0.278	*0.260*	-0.275	*0.382*	-0.004	*0.112*	-0.068	*0.496*	0.004	*0.114*	0.134	*0.112*	-0.088	*0.099*	-0.117	*0.121*
Fin. wealth_Q3	-0.122 *	*0.068*	0.178	*0.386*	-0.155	*0.237*	-0.356	*0.275*	-0.213	*0.391*	-0.019	*0.117*	0.045	*0.486*	0.010	*0.121*	-0.094	*0.133*	-0.195 *	*0.113*	0.065	*0.169*
Fin. wealth_Q4	-0.217 ***	*0.077*	0.184	*0.401*	-0.202	*0.292*	-0.402	*0.244*	-0.222	*0.413*	-0.112	*0.138*	0.233	*0.647*	0.046	*0.171*	-0.029	*0.157*	-0.212	*0.167*	0.611 *	*0.343*
Real wealth_Q2	-0.257 ***	*0.098*	0.766 *	*0.464*	-0.729	*0.754*	-0.088	*0.244*	-0.261	*0.724*	-0.533 **	*0.252*	-0.031	*0.696*	-0.134	*0.334*	-0.131	*0.331*	-0.273	*0.638*	-1.440	*1.350*
Real wealth_Q3	0.450 ***	*0.105*	1.392 ***	*0.469*	0.201	*0.673*	0.581	*0.447*	0.929	*0.915*	-0.112	*0.229*	0.404	*0.900*	0.543	*0.362*	0.545	*0.374*	0.080	*0.649*	-1.194	*1.269*
Real wealth_Q4	1.008 ***	*0.114*	1.995 ***	*0.467*	0.498	*0.688*	0.943 *	*0.496*	1.140	*0.958*	0.093	*0.226*	0.671	*0.829*	0.628	*0.364*	0.857 *	*0.379*	0.434	*0.625*	-1.038	*1.288*
Years since take-out	-0.062 ***	*0.005*	-0.027 **	*0.011*	-0.044 ***	*0.005*	-0.098 ***	*0.011*	-0.119 ***	*0.013*	-0.131 ***	*0.006*	-0.093 **	*0.036*	-0.085 ***	*0.014*	-0.136 ***	*0.009*	-0.069 ***	*0.008*	-0.145 ***	*0.016*
Origin loan duration	0.034 ***	*0.003*	0.019 ***	*0.007*	0.009 *	*0.005*	0.068 ***	*0.010*	0.081 ***	*0.014*	0.121 ***	*0.005*	0.057 *	*0.029*	0.087 ***	*0.006*	0.066 ***	*0.006*	0.038 ***	*0.005*	0.052 ***	*0.007*
House price growth	0.271 *	*0.145*	-1.364	*1.537*	-0.210	*0.241*	0.831	*0.547*	0.594	*0.484*	0.577 ***	*0.160*	-1.126	*0.733*	1.383 ***	*0.480*	0.390 **	*0.186*	0.549	*0.493*	0.956	*0.626*
Inherit. Received	-0.038	*0.048*	-0.421 ***	*0.111*	-0.019	*0.119*	-0.002	*0.114*	-0.096	*0.165*	-	-	-0.304	*0.339*	-	-	-0.046	*0.087*	-0.026	*0.086*	-0.258 *	*0.139*
Constant	10.188 ***	*0.162*	8.947 ***	*0.695*	12.085 ***	*0.794*	9.517 ***	*0.570*	8.314 ***	*1.180*	9.506 ***	*0.337*	9.232 ***	*1.626*	9.863 ***	*0.515*	9.841 ***	*0.443*	10.773 ***	*0.700*	11.960 ***	*1.584*
R2	0.44		0.25		0.34		0.47		0.49		0.52		0.19		0.51		0.50		0.38		0.49	
Observations	2,818		920		649		656		401		3,780		342		663		1,543		993		409	

Notes: The table reports results from RIF regressions. Numbers in italics denote standard errors. */**/*** denote statistical significance at the 10%/5%/1% level. Country abbreviations are as explained in the notes to Table 1. Reported estimates are adjusted for multiple imputation.

Table A.5 RIF regressions for the amount of holdings of non-collateralized debt at the 50th percentile of the distribution by country

	US		DE		NL		BE		LU		FR		AT		IT		ES		PT		GR	
Age<40	0.403 ***	*0.116*	0.452	*0.381*	0.779	*0.682*	0.215	*0.607*	0.867 *	*0.449*	0.549 ***	*0.187*	1.089 *	*0.591*	-0.113	*0.259*	0.000	*0.279*	-0.025	*0.550*	0.640 *	*0.362*
Age: 40-49	0.259 **	*0.114*	0.260	*0.370*	0.653	*0.736*	0.138	*0.589*	0.783 *	*0.413*	0.469 **	*0.184*	1.196 **	*0.555*	-0.223	*0.236*	0.065	*0.254*	0.256	*0.539*	0.417	*0.359*
Age: 50-59	0.247 **	*0.107*	0.652 *	*0.365*	1.183 **	*0.554*	0.038	*0.579*	0.486	*0.398*	0.347 **	*0.176*	0.698	*0.489*	-0.182	*0.231*	0.097	*0.239*	0.133	*0.492*	0.439	*0.325*
Couple	0.097	*0.098*	0.064	*0.257*	-1.753 *	*0.926*	0.082	*0.334*	0.377	*0.298*	0.000	*0.119*	0.012	*0.368*	-0.151	*0.260*	0.234	*0.230*	0.024	*0.572*	-0.118	*0.285*
Single	-0.025	*0.107*	-0.189	*0.280*	-0.720	*0.842*	0.140	*0.404*	-0.003	*0.317*	-0.157	*0.126*	-0.526	*0.404*	-0.248	*0.285*	0.251	*0.279*	-0.512	*0.449*	-0.242	*0.321*
Widowed	0.023	*0.158*	-0.097	*0.468*	-2.754 ***	*0.889*	-0.196	*0.511*	0.418	*0.832*	-0.044	*0.177*	-0.572	*0.625*	-0.114	*0.363*	0.399	*0.379*	-0.575	*0.505*	-0.854 *	*0.469*
High School grad	0.310 ***	*0.115*	-0.271	*0.266*	-0.149	*0.444*	0.074	*0.310*	0.172	*0.220*	-0.019	*0.085*	-0.356	*0.370*	0.228	*0.141*	-0.032	*0.168*	-0.334	*0.313*	-0.215	*0.204*
College grad	0.635 ***	*0.125*	-0.175	*0.294*	0.322	*0.537*	0.144	*0.337*	-0.159	*0.275*	0.143	*0.109*	-0.359	*0.551*	0.345	*0.228*	0.162	*0.174*	-0.043	*0.384*	-0.388	*0.250*
Employed	0.236 *	*0.137*	0.353	*0.306*	0.042	*0.632*	0.396	*0.450*	-0.136	*0.565*	0.306 **	*0.136*	-0.191	*0.458*	0.284	*0.284*	-0.023	*0.240*	-0.113	*0.391*	-0.570	*0.447*
Self-employed	0.165	*0.157*	0.426	*0.394*	-0.361	*1.135*	-0.775	*0.646*	-0.240	*0.620*	0.405 **	*0.168*	0.340	*0.608*	0.868 ***	*0.311*	0.805 ***	*0.293*	0.007	*0.496*	-0.296	*0.459*
Retired	-0.017	*0.154*	-0.004	*0.455*	0.949	*0.812*	0.372	*0.694*	-0.151	*0.625*	0.263	*0.212*	0.386	*0.588*	0.219	*0.342*	-0.145	*0.336*	-0.243	*0.575*	0.297	*0.504*
Oth. Inactive	0.313	*0.239*	0.913 **	*0.383*	0.817	*0.761*	0.237	*0.563*	-0.821	*0.625*	0.041	*0.203*	-1.266 *	*0.643*	0.095	*0.712*	0.247	*0.370*	-0.783	*0.742*	0.374	*0.610*
HH size	0.026	*0.026*	-0.176 **	*0.085*	0.418 **	*0.203*	0.030	*0.109*	0.032	*0.077*	0.002	*0.033*	-0.036	*0.129*	0.048	*0.066*	0.085	*0.070*	-0.046	*0.115*	-0.004	*0.085*
Income_Q2	0.100	*0.109*	0.581 *	*0.305*	0.456	*0.950*	0.236	*0.452*	0.100	*0.521*	0.378 ***	*0.108*	0.501	*0.444*	0.072	*0.192*	0.092	*0.195*	0.499 *	*0.271*	0.436 *	*0.231*
Income_Q3	0.510 ***	*0.111*	0.791 **	*0.312*	0.779	*0.941*	0.694	*0.473*	-0.126	*0.520*	0.658 ***	*0.132*	0.924 *	*0.458*	0.032	*0.221*	0.352	*0.225*	0.594	*0.391*	0.595 **	*0.263*
Income_Q4	0.872 ***	*0.150*	0.743 **	*0.358*	1.095	*1.020*	1.208 **	*0.485*	0.135	*0.532*	0.883 ***	*0.183*	1.405 ***	*0.525*	0.331	*0.288*	0.633 **	*0.282*	0.601	*0.497*	0.644 *	*0.345*
Fin. wealth_Q2	0.107	*0.104*	0.425 *	*0.253*	-1.082 *	*0.637*	0.293	*0.426*	0.097	*0.334*	-0.012	*0.106*	1.009 ***	*0.349*	-0.302 *	*0.165*	-0.435 **	*0.171*	-0.194	*0.276*	-0.133	*0.187*
Fin. wealth_Q3	0.078	*0.107*	0.254	*0.295*	-1.256	*0.803*	0.149	*0.463*	0.151	*0.396*	-0.033	*0.126*	0.655	*0.406*	-0.302	*0.196*	-0.696 ***	*0.212*	0.276	*0.342*	-0.589 **	*0.271*
Fin. wealth_Q4	-0.237 *	*0.134*	0.492	*0.412*	-1.135	*0.703*	0.368	*0.439*	0.275	*0.451*	-0.018	*0.164*	0.879	*0.539*	-0.289	*0.314*	-0.850 ***	*0.295*	0.886 *	*0.482*	0.461	*0.521*
Real wealth_Q2	0.407 ***	*0.092*	0.196	*0.251*	-0.490	*0.792*	1.225 ***	*0.436*	0.811 **	*0.396*	0.638 ***	*0.140*	-0.165	*0.359*	0.733 ***	*0.217*	0.649 **	*0.277*	1.274 ***	*0.338*	0.382	*0.249*
Real wealth_Q3	0.429 ***	*0.111*	-0.054	*0.269*	0.485	*0.549*	0.657	*0.400*	0.638	*0.477*	0.573 ***	*0.107*	-0.591	*0.451*	0.682 ***	*0.220*	0.487 **	*0.214*	0.737 **	*0.313*	0.652 **	*0.260*
Real wealth_Q4	0.639 ***	*0.135*	0.444	*0.311*	0.914	*0.584*	0.428	*0.392*	1.026 ***	*0.298*	0.810 ***	*0.113*	-0.570	*0.474*	0.548 **	*0.214*	0.759 ***	*0.247*	0.624	*0.405*	0.317	*0.288*
Inherit. received	0.015	*0.082*	-0.046	*0.193*	-0.355	*0.585*	-0.115	*0.263*	-0.218	*0.210*	-	-	0.200	*0.314*	-	-	0.241	*0.157*	0.223	*0.275*	0.116	*0.190*
Last yr inc low	0.116	*0.072*	-0.245	*0.193*	-0.541	*0.657*	0.246	*0.258*	0.261	*0.249*	-	-	0.361	*0.373*	-0.158	*0.142*	-0.227	*0.144*	0.304	*0.241*	0.344 *	*0.188*
Willing take risk	-0.048	*0.081*	-0.379	*0.321*	-1.636 *	*0.897*	-0.862 **	*0.394*	-0.643	*0.581*	-	-	0.495	*0.366*	0.052	*0.157*	-0.634 **	*0.308*	-0.562	*0.811*	-0.939 ***	*0.256*
Exp income up	0.190 **	*0.074*	-0.286	*0.229*	1.369 ***	*0.500*	0.013	*0.421*	0.320	*0.288*	-	-	-0.107	*0.389*	-0.124	*0.189*	-0.157	*0.152*	-0.135	*0.416*	0.032	*0.375*
Constant	7.528 ***	*0.212*	7.664 ***	*0.590*	10.423 ***	*1.766*	7.582 ***	*0.856*	8.069 ***	*0.953*	7.101 ***	*0.233*	6.242 ***	*0.819*	8.023 ***	*0.434*	8.846 ***	*0.525*	8.113 ***	*1.089*	9.000 ***	*0.672*
R2	0.141		0.992		0.276		0.176		0.171		0.118		0.142		0.083		0.115		0.091		0.092	
Observations	3,795		1,107		292		506		358		4,620		466		1,249		1,397		776		806	

Notes: The table reports results from RIF regressions. Numbers in italics denote standard errors. */**/*** denote statistical significance at the 10%/5%/1% level. Country abbreviations are as explained in the notes to Table 1. Reported estimates are adjusted for multiple imputation.

Table A.6 Linear probability regressions for having a DSIR > 33% by country

	US		DE		NL		BE		LU		FR		AT		IT		ES		PT		GR	
Age 40	0.056 ***	*0.019*	0.046 **	*0.020*	0.107 **	*0.044*	0.032	*0.043*	0.100 **	*0.042*	0.036 ***	*0.010*	0.029	*0.024*	0.029 **	*0.014*	0.149 ***	*0.031*	0.109 ***	*0.025*	0.070 ***	*0.022*
Age 40-49	0.073 ***	*0.019*	0.032 *	*0.017*	0.032	*0.036*	0.004	*0.039*	0.096 **	*0.040*	0.034 ***	*0.010*	0.017	*0.016*	0.038 ***	*0.015*	0.087 ***	*0.027*	0.083 ***	*0.023*	0.082 ***	*0.023*
Age 50-59	0.054 ***	*0.016*	0.053 ***	*0.020*	0.051	*0.037*	0.012	*0.038*	0.053 *	*0.028*	0.014 *	*0.007*	0.006	*0.013*	0.019	*0.013*	0.017	*0.023*	0.045 ***	*0.015*	0.064 ***	*0.022*
Couple	-0.072 ***	*0.018*	0.000	*0.021*	-0.016	*0.055*	-0.027	*0.023*	-0.039	*0.040*	-0.004	*0.007*	0.001	*0.011*	-0.006	*0.011*	-0.025	*0.027*	-0.051 **	*0.024*	0.006	*0.019*
Single	-0.047 **	*0.018*	-0.039 *	*0.023*	-0.030	*0.036*	-0.041 *	*0.024*	-0.020	*0.045*	-0.008	*0.008*	-0.007	*0.012*	-0.003	*0.012*	-0.033	*0.029*	-0.075 ***	*0.026*	-0.030	*0.021*
Widowed	-0.053 **	*0.024*	-0.004	*0.022*	-0.052	*0.041*	-0.023	*0.029*	-0.070 *	*0.038*	-0.010	*0.007*	0.010	*0.011*	-0.006	*0.011*	-0.013	*0.028*	-0.068 ***	*0.024*	-0.014	*0.020*
High School grad	0.010	*0.017*	-0.008	*0.011*	-0.016	*0.025*	0.009	*0.016*	0.049 *	*0.025*	0.006	*0.005*	0.002	*0.009*	-0.005	*0.008*	0.029	*0.022*	-0.021	*0.016*	0.004	*0.013*
College grad	0.032	*0.020*	-0.004	*0.016*	0.054	*0.034*	0.025	*0.017*	0.038	*0.027*	0.006	*0.007*	-0.008	*0.010*	-0.004	*0.009*	0.005	*0.021*	-0.005	*0.017*	0.010	*0.016*
Employed	-0.035	*0.026*	-0.001	*0.014*	-0.024	*0.040*	-0.013	*0.033*	-0.030	*0.067*	0.007	*0.010*	-0.017	*0.026*	-0.041	*0.032*	-0.016	*0.030*	0.001	*0.023*	-0.058 *	*0.033*
Self-employed	-0.004	*0.030*	0.049 *	*0.029*	0.091	*0.090*	0.058	*0.053*	-0.005	*0.072*	0.059 ***	*0.015*	-0.003	*0.034*	0.009	*0.035*	0.036	*0.038*	0.062 **	*0.029*	-0.008	*0.035*
Retired	-0.093 ***	*0.031*	-0.014	*0.017*	-0.016	*0.044*	-0.040	*0.043*	-0.012	*0.068*	-0.023 **	*0.011*	-0.020	*0.028*	-0.043	*0.033*	-0.054	*0.034*	-0.009	*0.023*	-0.019	*0.037*
Oth. Inactive	-0.054	*0.042*	-0.004	*0.018*	-0.017	*0.056*	-0.012	*0.038*	-0.024	*0.079*	-0.009	*0.013*	-0.040	*0.026*	-0.040	*0.034*	-0.056	*0.037*	-0.032	*0.037*	-0.043	*0.038*
HH size	0.015 ***	*0.005*	-0.011 **	*0.005*	0.010	*0.014*	0.018 **	*0.007*	0.017 *	*0.010*	0.003	*0.003*	0.005	*0.005*	0.005	*0.004*	0.034 ***	*0.010*	0.001	*0.005*	0.005	*0.005*
Income Q2	-0.029 *	*0.016*	-0.008	*0.012*	-0.122	*0.086*	-0.059 **	*0.023*	-0.066	*0.049*	-0.027 ***	*0.006*	-0.019	*0.013*	-0.021 **	*0.009*	-0.048 **	*0.020*	-0.085 ***	*0.016*	-0.043 **	*0.017*
Income Q3	-0.093 ***	*0.018*	-0.020	*0.017*	-0.187 *	*0.084*	-0.118 ***	*0.036*	-0.145 ***	*0.054*	-0.070 ***	*0.009*	-0.036 **	*0.017*	-0.049 ***	*0.013*	-0.126 ***	*0.026*	-0.142 ***	*0.017*	-0.078 ***	*0.019*
Income Q4	-0.247 ***	*0.023*	-0.046 *	*0.025*	-0.238 **	*0.092*	-0.148 ***	*0.039*	-0.202 ***	*0.057*	-0.108 ***	*0.013*	-0.048 ***	*0.018*	-0.053 ***	*0.020*	-0.178 ***	*0.031*	-0.180 ***	*0.022*	-0.124 ***	*0.023*
Fin. wealth Q2	-0.010	*0.017*	0.023 **	*0.011*	0.019	*0.039*	-0.041	*0.025*	-0.004	*0.036*	0.003	*0.007*	-0.001	*0.012*	0.002	*0.009*	-0.059 **	*0.023*	-0.030 **	*0.015*	-0.039 ***	*0.010*
Fin. wealth Q3	-0.053 **	*0.020*	0.004	*0.011*	-0.015	*0.042*	-0.057 **	*0.025*	-0.019	*0.036*	-0.010	*0.008*	0.006	*0.013*	-0.003	*0.011*	-0.102 ***	*0.023*	-0.045 **	*0.017*	-0.043 ***	*0.014*
Fin. wealth Q4	-0.165 ***	*0.024*	-0.007	*0.019*	-0.005	*0.037*	-0.049 *	*0.028*	-0.050	*0.044*	-0.011	*0.011*	0.008	*0.016*	-0.017	*0.013*	-0.082 ***	*0.029*	-0.040 *	*0.024*	0.007	*0.040*
Real wealth Q2	0.195 ***	*0.015*	0.015 **	*0.007*	-0.005	*0.022*	0.092 ***	*0.032*	0.048	*0.030*	0.039 ***	*0.006*	0.008	*0.012*	0.013	*0.008*	0.113 ***	*0.025*	0.058 ***	*0.013*	0.033 ***	*0.010*
Real wealth Q3	0.362 ***	*0.019*	0.077 ***	*0.019*	0.089 **	*0.034*	0.102 ***	*0.023*	0.208 ***	*0.071*	0.072 ***	*0.007*	0.025	*0.016*	0.031 ***	*0.009*	0.155 ***	*0.020*	0.131 ***	*0.016*	0.067 ***	*0.013*
Real wealth Q4	0.454 ***	*0.022*	0.108 ***	*0.021*	0.130 ***	*0.034*	0.117 ***	*0.024*	0.182 ***	*0.037*	0.132 ***	*0.009*	0.027	*0.023*	0.043 ***	*0.009*	0.239 ***	*0.022*	0.172 ***	*0.022*	0.105 ***	*0.017*
Inherit. received	-0.053 ***	*0.013*	-0.009	*0.012*	-0.028	*0.034*	-0.030 **	*0.012*	-0.056 ***	*0.016*	-	-	0.002	*0.010*	-	-	-0.042 ***	*0.013*	-0.033 ***	*0.012*	-0.019 *	*0.011*
Constant	0.062 *	*0.035*	0.019	*0.026*	0.129	*0.082*	0.068	*0.046*	0.027	*0.089*	0.003	*0.013*	0.018	*0.034*	0.037	*0.033*	-0.024	*0.046*	0.072 **	*0.034*	0.033	*0.037*
R2	0.16		0.08		0.18		0.11		0.13		0.07		0.02		0.04		0.14		0.11		0.08	
Observations	6,378		3,539		1,257		2,235		943		14,964		2,374		7,898		6,127		4,329		2,896	

Notes: The table reports results from linear probability models. Numbers in italics denote standard errors. */**/*** denote statistical significance at the 10%/5%/1% level. Country abbreviations are as explained in the notes to Table 1. Reported estimates are adjusted for multiple imputation.

Table A.7 RIF regressions for the DSIR at the 90th percentile of the distribution by country

	US		DE		NL		BE		LU		FR		AT		IT		ES		PT		GR	
Age<40	0.071 ***	*0.026*	0.140 ***	*0.043*	0.233 **	*0.088*	0.086 *	*0.045*	0.156 ***	*0.054*	0.119 ***	*0.021*	0.126 **	*0.051*	0.154 ***	*0.036*	0.219 ***	*0.054*	0.247 ***	*0.050*	0.288 ***	*0.075*
Age: 40-49	0.068 ***	*0.024*	0.093 **	*0.041*	0.056	*0.055*	0.026	*0.043*	0.120 ***	*0.046*	0.100 ***	*0.020*	0.142 ***	*0.048*	0.123 ***	*0.030*	0.121 **	*0.047*	0.187 ***	*0.045*	0.305 ***	*0.077*
Age: 50-59	0.049 **	*0.022*	0.124 ***	*0.042*	0.112 *	*0.058*	0.022	*0.038*	0.096 **	*0.038*	0.037 *	*0.020*	0.034	*0.033*	0.043 *	*0.026*	0.017	*0.042*	0.094 ***	*0.033*	0.205 ***	*0.063*
Couple	-0.103 ***	*0.026*	-0.037	*0.041*	-0.025	*0.089*	-0.046	*0.030*	-0.067	*0.052*	-0.032 **	*0.014*	-0.040	*0.029*	-0.012	*0.025*	-0.044	*0.044*	-0.149 ***	*0.048*	0.052	*0.048*
Single	-0.086 ***	*0.027*	-0.129 ***	*0.046*	-0.061	*0.070*	-0.039	*0.034*	-0.042	*0.051*	-0.048 ***	*0.014*	-0.048	*0.029*	-0.043	*0.029*	-0.030	*0.049*	-0.187 ***	*0.053*	-0.108 **	*0.051*
Widowed	-0.089 ***	*0.031*	0.009	*0.047*	-0.085	*0.076*	-0.074 **	*0.033*	-0.135 ***	*0.051*	-0.030 **	*0.012*	-0.032	*0.031*	-0.010	*0.025*	-0.013	*0.048*	-0.174 ***	*0.050*	0.006	*0.050*
High School grad	0.014	*0.024*	0.009	*0.028*	-0.017	*0.044*	-0.003	*0.023*	0.035	*0.034*	0.013	*0.009*	-0.009	*0.026*	0.011	*0.017*	0.059	*0.038*	-0.035	*0.035*	0.025	*0.035*
College grad	0.057 **	*0.027*	0.053	*0.035*	0.092 *	*0.050*	0.015	*0.023*	0.012	*0.037*	0.029 **	*0.011*	-0.018	*0.040*	0.001	*0.025*	0.018	*0.036*	-0.006	*0.036*	0.023	*0.040*
Employed	-0.041	*0.037*	0.040	*0.032*	-0.056	*0.066*	0.034	*0.040*	0.000	*0.085*	0.025 *	*0.015*	-0.037	*0.058*	0.043	*0.047*	-0.020	*0.049*	-0.016	*0.045*	-0.132 *	*0.076*
Self-employed	0.038	*0.045*	0.090 *	*0.053*	0.176	*0.162*	0.063	*0.061*	0.036	*0.103*	0.052 **	*0.021*	-0.030	*0.064*	0.070	*0.052*	0.061	*0.061*	0.081	*0.055*	-0.069	*0.079*
Retired	-0.109 ***	*0.039*	-0.011	*0.042*	-0.047	*0.083*	-0.031	*0.050*	-0.020	*0.085*	-0.029	*0.023*	-0.036	*0.063*	-0.010	*0.050*	-0.070	*0.058*	-0.044	*0.047*	-0.036	*0.088*
Oth. inactive	-0.023	*0.063*	0.005	*0.038*	-0.064	*0.098*	-0.026	*0.045*	0.006	*0.095*	-0.015	*0.017*	-0.167 **	*0.066*	-0.020	*0.054*	-0.072	*0.063*	-0.090	*0.070*	-0.098	*0.087*
HH size	0.016 **	*0.007*	0.005	*0.014*	0.015	*0.027*	0.025 ***	*0.010*	0.011	*0.014*	0.003	*0.004*	0.019	*0.013*	0.011	*0.008*	0.065 ***	*0.017*	0.009	*0.011*	0.020	*0.013*
Income_Q2	-0.064 ***	*0.023*	-0.005	*0.028*	-0.194	*0.163*	-0.038	*0.026*	-0.083	*0.055*	-0.018 **	*0.009*	-0.019	*0.0[illegible]*	0.009	*0.017*	-0.098 ***	*0.034*	-0.141 ***	*0.031*	-0.086 **	*0.038*
Income_Q3	-0.172 ***	*0.030*	-0.031	*0.030*	-0.321	*0.173*	-0.132 ***	*0.032*	-0.120 *	*0.066*	-0.048 ***	*0.014*	-0.036	*0.042*	0.014	*0.025*	-0.237 ***	*0.041*	-0.293 ***	*0.034*	-0.189 ***	*0.048*
Income_Q4	-0.367 ***	*0.033*	-0.089 **	*0.042*	-0.415 *	*0.194*	-0.210 ***	*0.035*	-0.240 ***	*0.080*	-0.116 ***	*0.019*	-0.093 *	*0.046*	-0.068 **	*0.032*	-0.307 ***	*0.053*	-0.380 ***	*0.049*	-0.345 ***	*0.072*
Fin. wealth_Q2	-0.014	*0.024*	-0.009	*0.029*	0.033	*0.074*	-0.070 *	*0.037*	-0.018	*0.048*	0.003	*0.011*	-0.001	*0.028*	-0.046 **	*0.020*	-0.101 **	*0.039*	-0.077 ***	*0.028*	-0.132 ***	*0.032*
Fin. wealth_Q3	-0.077 ***	*0.027*	-0.074 *	*0.041*	-0.021	*0.068*	-0.107 ***	*0.039*	-0.057	*0.052*	-0.059 ***	*0.012*	-0.010	*0.032*	-0.086 ***	*0.024*	-0.162 ***	*0.038*	-0.087 ***	*0.032*	-0.177 ***	*0.037*
Fin. wealth_Q4	-0.175 ***	*0.030*	-0.168 ***	*0.050*	-0.016	*0.068*	-0.117 ***	*0.039*	-0.088	*0.056*	-0.094 ***	*0.015*	-0.022	*0.041*	-0.147 ***	*0.031*	-0.132 ***	*0.044*	-0.080 *	*0.046*	-0.094	*0.087*
Real wealth_Q2	0.225 ***	*0.025*	0.118 ***	*0.027*	-0.013	*0.047*	0.173 ***	*0.046*	0.049	*0.037*	0.093 ***	*0.012*	0.063 **	*0.026*	0.078 ***	*0.019*	0.137 ***	*0.037*	0.152 ***	*0.025*	0.152 ***	*0.035*
Real wealth_Q3	0.414 ***	*0.031*	0.276 ***	*0.040*	0.189 ***	*0.053*	0.210 ***	*0.033*	0.302 ***	*0.082*	0.209 ***	*0.012*	0.132 **	*0.046*	0.161 ***	*0.020*	0.236 ***	*0.034*	0.286 ***	*0.031*	0.293 ***	*0.050*
Real wealth_Q4	0.550 ***	*0.038*	0.415 ***	*0.046*	0.252 ***	*0.051*	0.209 ***	*0.033*	0.299 ***	*0.052*	0.279 ***	*0.012*	0.145 **	*0.056*	0.186 ***	*0.022*	0.367 ***	*0.038*	0.378 ***	*0.043*	0.380 ***	*0.064*
Inherit. received	-0.062 ***	*0.016*	-0.035	*0.025*	-0.065	*0.064*	-0.035 *	*0.018*	-0.067 ***	*0.024*	-	-	-0.021	*0.025*	-	-	-0.062 ***	*0.022*	-0.088 ***	*0.023*	-0.087 ***	*0.028*
Constant	0.344 ***	*0.049*	0.034	*0.060*	0.363 **	*0.148*	0.202 ***	*0.054*	0.209 *	*0.111*	0.119 ***	*0.022*	0.044	*0.077*	-0.028	*0.054*	0.139 *	*0.080*	0.277 ***	*0.068*	0.014	*0.097*
R2	0.14		0.14		0.18		0.14		0.15		0.14		0.05		0.08		0.13		0.13		0.12	
Observations	6,378		3,539		1,257		2,235		943		14,964		2,374		7,898		6,127		4,329		2,896	

Notes: The table reports results from RIF regressions. Numbers in italics denote standard errors. */**/*** denote statistical significance at the 10%/5%/1% level. Country abbreviations are as explained in the notes to Table 1. Reported estimates are adjusted for multiple imputation.